SOAP and CHEMICAL SPECIALTIES

In this issue...

1957 BLUE BOOK and Catalog

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Annual Buyers' Guide

for

Manufacturers, Converters and Repackers of Soaps, Detergents and Chemical Specialties.

UNGERER

Importer
Manufacturer

* FOR 60 YEARS

a fine tradition
in the creation
of basic materials
for PERFUMES and
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Essential Oils

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Totowa, N. J.

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for Premium Grade Soaps, depend on ADM fatty acids

Top quality soaps start with the best vegetable fatty acids. That's why ADM fatty acids are the first choice of premium soap manufacturers.

You can choose from nine specialized ADM corn, soya, cottonseed, or linseed fatty acids. A glance at the specifications shows that this complete line gives you a wide selection, whether you are looking for economy, easier processing, or higher quality.

That's one of several big advantages you gain in doing business with ADM – you have a single, reliable source for a complete line of dependably uniform fatty acids. Highest purity and unvarying specifications are always assured.

In addition to the time-saving convenience which comes with buying from ADM, you also have the advantage of being able to buy any combination of fatty acids and linseed and soybean oils in truckload, carload, or tankcar shipments. These combined purchases add up to healthy savings. Write today for complete details on carload purchase plan.

ADM VEGETABLE FATTY ACIDS

		Iodine Value	Titer	Color (Gardner)	Acid Value
LINSEED	Water White Distilled	180 Min.	17-20	3 Max.	197-204
	Regular Distilled	157 Min.	18-24	6 Max.	197-204
	SM-500	152 Min.	18-24	10 Max.	195-204
SOYA	Water White Distilled	135 Min.	20-23	2 Max.	195-205
	RO-10	124 Min.	23-29	5-6 Max.	195-205
	RO-11-S	124 Min.	23-29	4 Max.	195-205
SOYA-TYPE	RO-8	115 Min.	30 Max.	6-8	195-205
COTTONSEED	Double Distilled	95-110	32-38	8 Max.	195-205
CORN	Double Distilled	105-120	26-32	8 Max.	195-205

Archer-Daniels-Midland

ADM fatty acids

ARCHER-DANIELS-MIDLAND COMPANY
733 Investors Bldg.
Minneapolis 2, Minnesota

☐ Send information on_____ Vegetable Fatty Acids

☐ Send samples of_____ Vegetable Fatty Acids

Name_____

Position_____

Company_____

Address_____

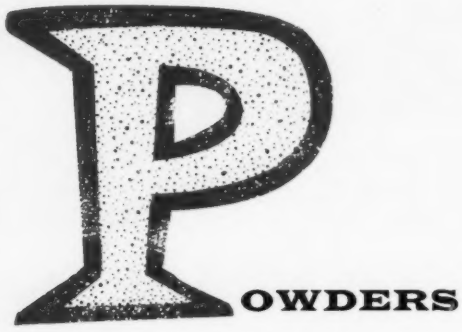
City_____ Zone___ State_____

EADS

. . . spray-dried to uniform density

LAKES

. . . uniform size and activity



OWDERS

. . . dust-free and non-caking

IQUIDS

. . . clear and stable

make ULTRA your headquarters for all detergent needs!

DETERGENTS • WETTING AGENTS • EMULSIFIERS • FOAMERS

Alkyl aryl sulfonates, amine condensates—all can be supplied by Ultra. This one-source service saves time . . . saves money. One order, one delivery, and one invoice . . . and all products can be combined for quantity price!

Get the detergent type you need in the form you want it. Ask our representative for details on the complete Ultra line—and how combined-item purchasing can save you money.

SPRAY-DRIED
- Sulframin® AB 40 Beads . . . neutral alkyl aryl
- Sulframin HD Beads . . . built alkyl aryl
- Neopone® LO Beads . . . built non-ionic

DRUM-DRIED
- Sulframin AB 40 Flakes and Powder
- Sulframin AB Conc. Flakes and Powder

LIQUIDS
- Sulframin KE . . . alkyl aryl
- Sulframin AB . . . alkyl aryl
- Sulframin E . . . alkyl aryl and non-ionic
- Ultrapoles® . . . amine condensates

ULTRA Chemical WORKS

Headquarters for all your detergent needs

ULTRA CHEMICAL WORKS

DIVISION OF WITCO CHEMICAL COMPANY

2 Wood Street, Paterson, N. J.

1957
BLUE BOOK
and Catalog Edition of
SOAP & CHEMICAL SPECIALTIES

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AN ANNUAL BUYERS GUIDE, DIRECTORY AND REFERENCE VOLUME FOR MANUFACTURERS, CONVERTERS, REPACKERS OF SOAPS, DETERGENTS, INSECTICIDES, DISINFECTANTS, POLISHES, CLEANERS, CHEMICAL SPECIALTIES, SERVICES AND EQUIPMENT.

Thirtieth Edition

$2.00 a copy

(Included without charge in annual subscription of "Soap & Chemical Specialties")

ISSUED ANNUALLY BY

MacNair-Dorland Company

254 West 31st Street New York 1, N. Y.

So much that makes women happy begins in this

"Library of the Ladies"

HERE is the world, in bottles. The bottles you see in Norda's "perfume library" of its raw materials testing laboratory contain perfume raw materials from practically everywhere on earth. France nudges Russia on the shelves; England is neighbor to China.

From forever testing the quality, suitability, adaptability, and perfume possibility of these constantly arriving raw materials, Norda perfumers are continuously developing unique odors, improving the characteristics of fine favorites, creating new excitements, new combinations.

Many a much-famed fragrance has been born right here at Norda. So have body, and briskness . . . excitingly clean, fresh crispness . . . sultry top notes, warm undertones. You know Norda makes good scents, always.

Send, on your letterhead, for free samples of Norda's essentials of fine perfume excellence.

Norda makes good scents

Norda

Norda, Inc.
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Canco's sensational new

NON-DRIP CAN

now available for...

DISINFECTANTS, CLEANERS, LUBRICATING ADDITIVES, INSECTICIDES, DETERGENTS, POLISH, WAX AND HUNDREDS OF OTHER SPECIALTIES !

Use it to give new sales life to an old product... or to get a new one off with a big head start!

It's another "first" from Canco—a can with a completely dripless nozzle. It pours freely, instantly, yet it won't drip a drop when the can is righted. But that's not all!

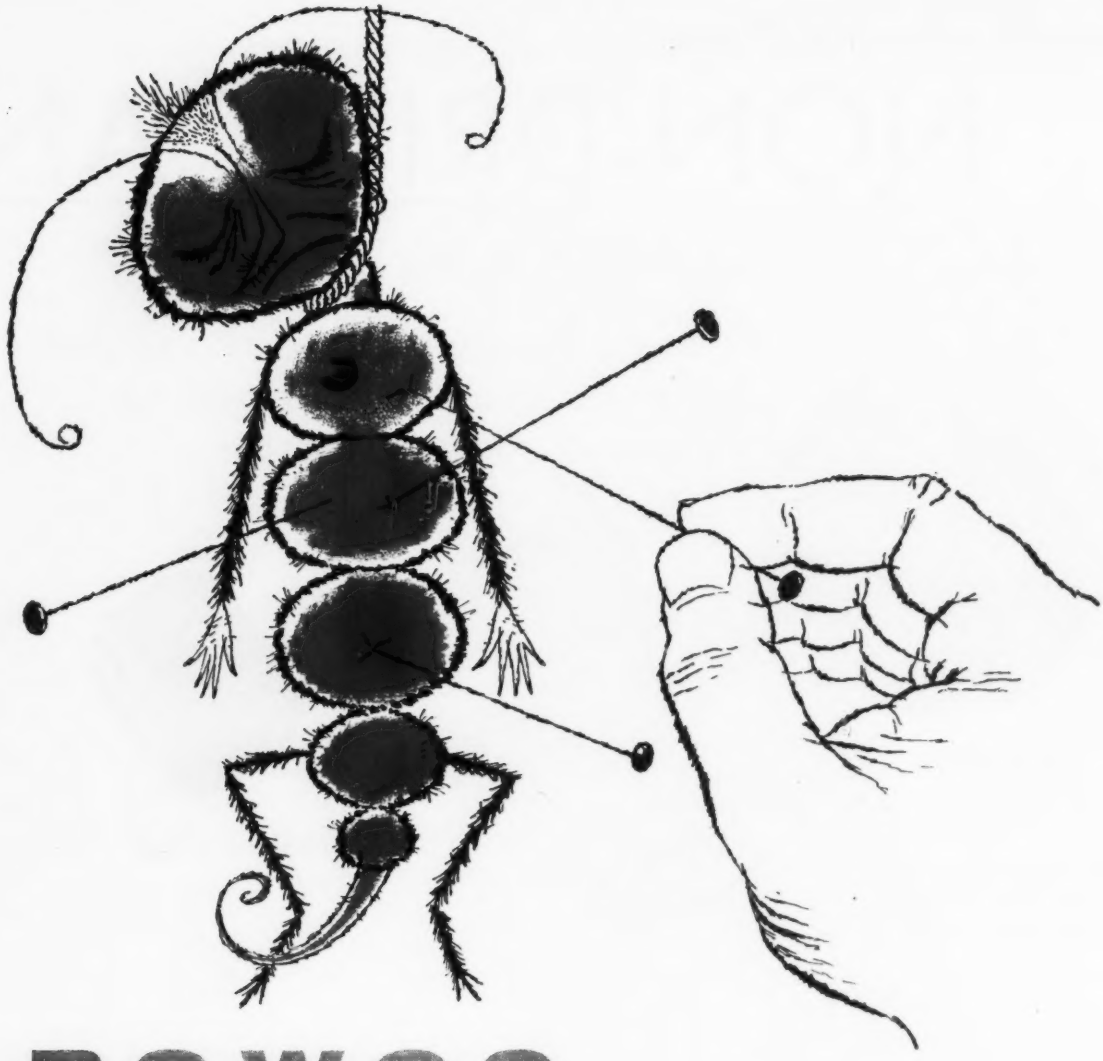
This new can takes full decoration all the way around *and on the top*, thanks to Canco's special side-seam and top construction. It's quick, easy, and economical to fill . . . it's lighter, handier, unbreakable, too. In short, it's packed with features that you, your dealers, and your customers will like.

If you manufacture or distribute one of the specialties listed above or one like it, find out *now* how this new Non-Drip Can will help broaden your market, increase your sales. Contact your nearby Canco representative today.

AMERICAN CAN COMPANY

NEW YORK • CHICAGO • SAN FRANCISCO

COME TO CANCO FIRST !



POWCO
takes the voodoo out of aerosol insecticides

Powell—one of the oldest and most honored names in aerosol insecticide concentrates and formulations—provides everything you want in aerosol toxicants. Without Voodoo. Without unproved claims for quality and service. But with the dependability and service for which Powco is known throughout the industry.

Powco gives you these top-quality concentrates and formulations (both standard and custom-made):

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- Household and Industrial Concentrates include Pyrethrum Extract, Pyrin, DDT (powders and solutions), Lindane, Chlordane, Dieldrin, Malathion and other approved toxicants both standard and custom-made.

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SAFETY IS WELL IN HAND . . .

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Here is your solution to the problem of *safe* and effective preservation of products vulnerable to fungal and bacterial attack. By preventing the growth of such microorganisms, Heyden Newport Parasepts eliminate costly breakdown, resultant malodor and discoloration of your product.

Harmless and non-irritating to the skin, the Parasepts find wide use in creams, lotions and other cosmetics; also in finger paints, tooth pastes and antibiotics where a low level of toxicity is required.

As non-ionic, neutral esters, Parasepts may be used in combination with other preservatives to achieve protection with maximum safety.

You will benefit from these outstanding advantages of the Parasepts:

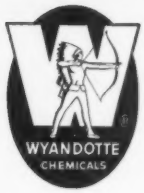
- Colorless, odorless and tasteless in recommended concentrations.
- Non-irritating to skin; extremely low toxicity.
- Economical—effective in low concentrations.

Heyden Newport offers Methyl, Ethyl, Propyl, and Butyl Parasepts in purified and technical grades to meet your specific requirements.

Write for Bulletin PSPT-1 and detailed technical information.

HEYDEN NEWPORT

HEYDEN NEWPORT
CHEMICAL CORPORATION
342 Madison Avenue—New York 17, New York



DEPENDABLE SOURCE FOR RAW-MATERIAL CHEMICALS

Check your chemical needs with this Wyandotte list

- ☐ Acids (muriatic)
- ☐ Benzene
- ☐ Bleaching agents
- ☐ Carboxymethylcellulose (CMC)
- ☐ Caustic soda:
  Flake, powder, crystal,
  50% or 74% liquid
- ☐ Chalk (calcium carbonate)
- ☐ Chlorine
- ☐ Detergents, synthetic
  (basic materials)
- ☐ Emulsifying agents
- ☐ Soda ash:
  Light and dense grades
- ☐ Sodium bicarbonate
- ☐ Solvents (chlorinated)
- ☐ Water softeners
- ☐ Wetting agents

Send this card for prompt data on Wyandotte's formulation-tested chemicals.

Supplying basic chemicals to soap, detergent, and chemical-specialty formulators has been Wyandotte's business for over 66 years. As a result, many formulators look to Wyandotte for chemicals of uniform quality and purity . . . for service that's dependable and prompt.

You, too, will find Wyandotte a reliable source for formulation-tested raw-material chemicals. If your product needs fall under one or several of the headings listed on this page, we'll be pleased to send you pertinent information on our chemicals, immediately. We also have skilled, qualified personnel to help you with your processing needs.

Just fill out the reverse side of this postage-free card; then clip and mail it in, today!

FIRST CLASS
PERMIT No. 1
Wyandotte, Michigan

BUSINESS REPLY CARD
No postage stamp necessary if mailed in the United States

3¢ — POSTAGE WILL BE PAID BY—

Wyandotte Chemicals Corporation
MICHIGAN ALKALI DIVISION
WYANDOTTE, MICHIGAN

Attention: Advertising Dept.

Here are some of the unique and well-known Wyandotte products which you may want to evaluate in your own laboratory!

HALANE – **a new, dry chlorine-bleach material** (dichlorodimethylhydantoin) **that combines unusual safety, effective bleaching, and excellent stability. When properly formulated in a highly desirable physical form,** HALANE **makes possible safe, powder-type home-laundry bleaches. Easily handled and packaged for wide sales appeal.**

KREELON* CD – an alkylarylsulfonate-type detergent which combines the advantages of a detergent and a detergency promoter in one homogeneous, rapidly soluble product . . . the first of its kind on the market. Available in both flake and powder form.

CARBOSE* – a specialized grade of NaCMC which greatly improves detergency in syndets and soaps.

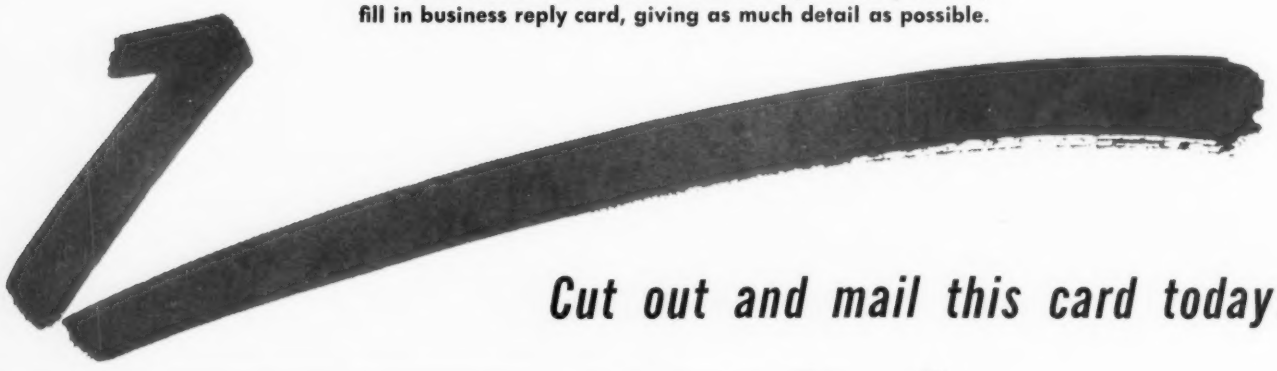
PLURONIC* SERIES – the unique 100%-active chemicals with excellent nonionic surface-active properties – offer flexibility; an over-all balance of desirable properties; and excellent stability in acids, alkalies, and electrolytic solutions. PLURONIC polyols can be prepared with molecular weights from 1,000 to 11,000, or any hydrophilic-hydrophobic balance within the established range. Choose from PLURONIC Grades L44, L61, L62, L64 (liquids); P75 (paste); and F68 – the first 100%-active nonionic commercially available in flake, powder, or solid-cast form!

CAUSTIC SODA – Wyandotte Caustic is exceptionally pure and chemically uniform. Available as a liquid (50% and 74% concentrations) and in numerous anhydrous forms. Anhydrous caustic is available from distributor stocks maintained in 69 principal cities.

SODA ASH – Purity, quality, and uniformity of Wyandotte Soda Ash are maintained by strict control testing throughout manufacture . . . every grade of Wyandotte Soda Ash is guaranteed 58% sodium oxide or better. Available in bag or bulk . . . distributor stocks maintained in 68 principal cities.

*Reg. U. S. Pat. Off.

For more information on these or other Wyandotte products, fill in business reply card, giving as much detail as possible.



Cut out and mail this card today!

Wyandotte Chemicals Corporation • Wyandotte, Mich.

Gentlemen:

Please send data on _____, with respect
(name of product)
to the following process (or problem): _____

☐ Send a sample for evaluation. ☐ Send price list.

☐ Have a Wyandotte representative call on me.

I am interested in ☐ carload, ☐ less-than-carload quantities.

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____

Wyandotte
CHEMICALS

MICHIGAN ALKALI DIVISION

Wyandotte Chemicals Corporation, Wyandotte, Michigan

Offices in Principal Cities

DEPENDABLE SOURCE FOR RAW-MATERIAL CHEMICALS

Buyers' Guide Section

FOLLOWING in alphabetical order are the leading sources of supply for over 1,000 raw materials, equipment, containers, bulk and private brand finished products, and services for manufacturers, converters, repackers and distributors of soaps and detergents, cleaners, insecticides, disinfectants, floor waxes, polishes, aerosols, and other chemical specialties.

Janitor supplies and accessories, carried in previous editions of the BLUE BOOK, have been omitted as they now are listed in the annual buyer's guide issue of *MAINTENANCE AND SANITARY SUPPLIES*. Many new listings have been added to this issue and every attempt made to keep addresses complete and accurate.

The BLUE BOOK is not a general chemical directory. It is edited specifically for manufacturers, converters and repackers of soaps, detergents and chemical specialties. It is designed solely for firms selling *to the trade*.

The editors are indebted to many readers and suppliers who have made suggestions for additional listings to improve further the usefulness of the directory. If you are looking for a manufacturer or supplier of a product or service not listed, drop a line to the SOAP BLUE BOOK, and the editors will try to locate a source of supply.

When writing advertisers or other suppliers listed, name the SOAP BLUE BOOK as the source of your information. It will identify you and aid in giving you quicker service.

The previous edition is now obsolete and should be discarded and this new 30th edition put in its place.

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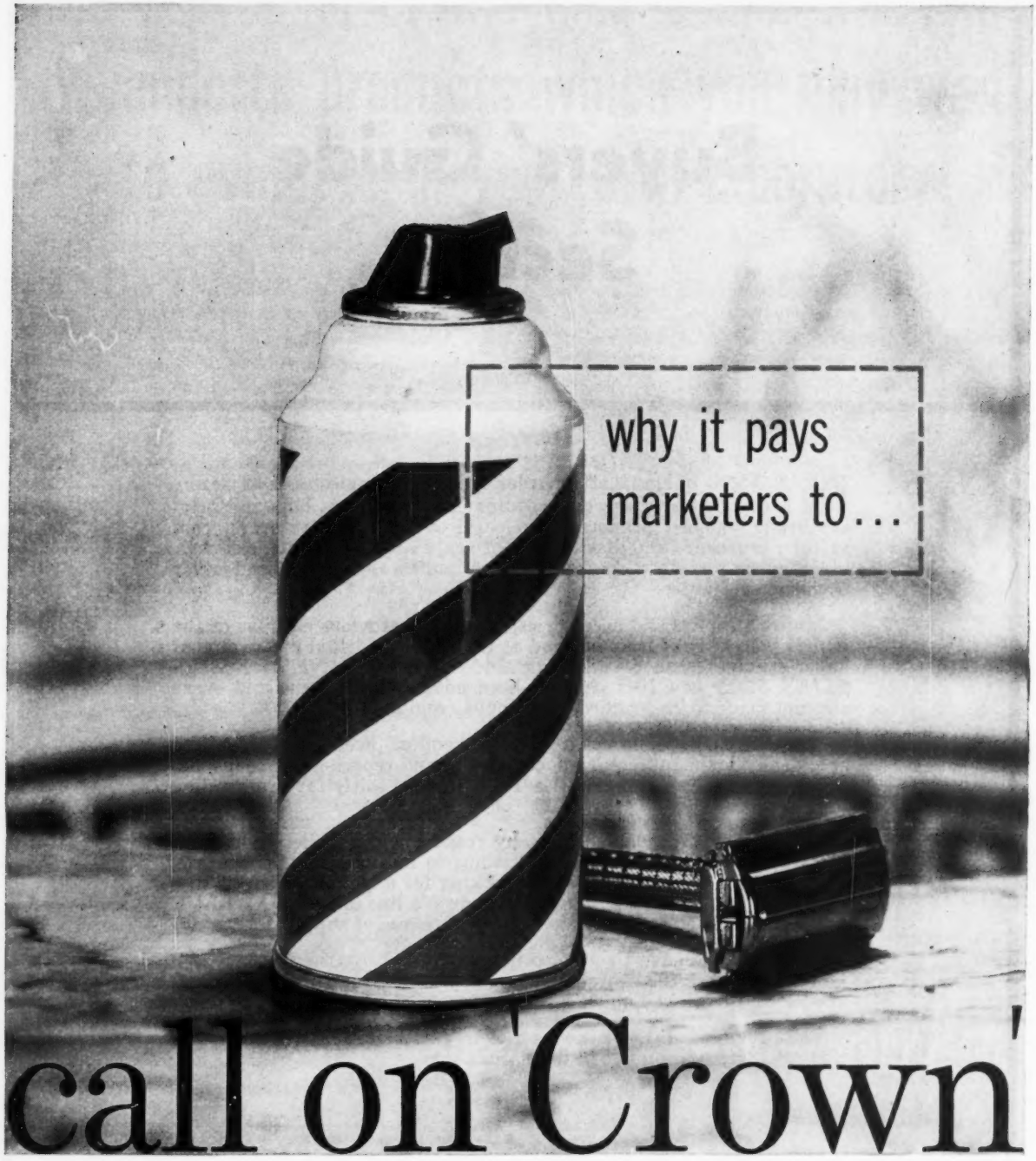
SOAP BLUE BOOK

254 W. 31 STREET **NEW YORK 1, N. Y.**



Spra-Tainer, the first "throw-away" pressure package, set new standards of design efficiency and convenience.

The extra strength of Spra-Tainer gives marketers a wider choice of propellants. Unique "no side seam—no top seam" construction permits uninterrupted inside coatings for best product protection. Crown's "wrap around" lithography gives marketers that vital extra spark at the point-of-sale.

Crown also provides authoritative facts on the adaptability of a product to pressure packaging . . . on pertinent Government and ICC regulations . . . on propellants, valves and contract loading facilities as well as the loading equipment itself.

You will find that this "one company responsibility" in pressure packaging pays real dividends when you . . . *call on Crown.*

CROWN CORK & SEAL COMPANY, INC., PHILADELPHIA 36, PENNA.

ABRASIVES AND FILLERS (Pumice, Silica, Feldspar, Bentonite, Clays, Marble Flour, etc.)

American Colloid Co., Merchandise Mart Plaza, Chicago,
Archer-Daniels-Midland Co., Minneapolis, Minn.
Baw Industries, P. O. Box 292, Rossville, Ill.
California Industrial Minerals Co., Friant, Calif.
Carolina Pyrophyllite Co., 10 E. 40th St., N. Y. 16
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Div., 612 S. Flower St., Los Angeles, Cal.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
La-Rue-Axtell Pumice Co., Callaway, Nebr.
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Pacific Coast Pumice Co., Bishop, Calif.
Jas. H. Rhodes & Co., 157 W. Hubbard St., Chicago
Wm. R. Rogers, 72 Park St., Beverly, Mass.
F. E. Schundler & Co., Inc., 524 Railroad St., Joliet, Ill.
Southeastern Clay Co., Aiken, S. C.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Tenn. Prod. & Chem. Corp., Nashville 3, Tenn.
Universal Marble Products, Thornwood, N. Y.
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Whittaker Clark & Daniels, 260 W. B'way, N. Y.
Witco Chemical Co., 122 E. 42nd St., N. Y.

ABSORBENTS (See Grease Absorbents)

ACCUMULATORS (Bottles, Cans)

Filpaco Industries, 2464 S. Michigan Ave., Chicago 16
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh 4
Island Equip. Corp., 27-01 Bridge Plaza No. L.I.C., N. Y.
Karl Kieffer Machine Co., 919 Martin St., Cincinnati

ACETIC ACID

American Cyanamid Co., 30 Rockefeller Plaza
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Celanese Corp. of America, 180 Madison Ave., N. Y.
Eastman Chem. Prods., Inc., Kingsport, Tenn.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
A. R. Maas Chem. Co., 4570 Ardine St., Southgate, Calif.
Monsanto Chemical Co., St. Louis, Mo.
Tenn. Prod. & Chem. Corp., Nashville, Tenn.
M. R. M. Co., 191 Berry St., Bklyn.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
U. S. Bottlers Machy. Co., 4019 N. Rockwell St., Chicago

ACIDS (Chlorosulfonic, Muriatic, Nitric, Phosphoric, Sulfuric, Etc.)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
Atlas Powder Co., Wilmington, Del.
J. T. Baker Chemical Co., Phillipsburg, N. J.
Blockson Chem. Co., Joliet, Ill.
Carbide & Carbon Chemicals Co., 30 E. 42nd St., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dover Chem. Co., Dover, O.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastman Chem. Prods., Kingsport, Tenn.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chem. Co., 1945 E. 97th St., Cleveland
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Kay-Fries Chems., Inc., 180 Madison Ave., N. Y. 16
Koppers Co., Koppers Bldg., Pittsburgh, Pa.
Mallinckrodt Chemical Wks., St. Louis 7
A. R. Maas Chem. Co., Div. of Victor Chem. Wks., 4570 Ardine St., South Gate, Calif.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., 1700 S. 2nd St., St. Louis
Olin Mathieson Chem. Corp., Baltimore 3, Md.
Oronite Chem. Co., 200 Bush St., San Francisco
Penna. Salt Mfg. Co., Widener Bldg., Phila.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Publicker Industries, 1429 Walnut St., Phila. 2
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Shea Chem. Corp., Jeffersonville, Ind.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Tennessee Corp., 619 Grant Blvd., Atlanta, Ga.
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

ACIDS (Benzoic Citric, Gluconic, Tartaric, etc.)

J. T. Baker Chem. Co., Phillipsburg, N. J.
Blockson Chem. Co., Joliet, Ill.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Glyco Prods. Co., 350 Fifth Ave., N. Y. C.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Mallinckrodt Chem. Co., St. Louis
Merck & Co., Rahway, N. J.
Monsanto Chem. Co., St. Louis, Mo.
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn.
Rayette, Inc., 261 E. 15th St., St. Paul, Minn.

ACTIVATED CARBONS

Chas B. Crystal Co., 53 Park Pl., N. Y.
Dicalite Div., 612 S. Flower St., Los Angeles, Calif.
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
J. M. Huber Corp., 100 Park Ave., N. Y. 17
Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y. 14
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 122 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich

ADHESIVES (Glues, Pastes, etc.)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Arabol Mfg. Co., 110 E. 42nd St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Bingham Bros. Co., 406 Pearl St., N. Y. C.
Darling & Co., 4201 Ashland Ave., Chicago 9
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Corning Corp., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
General Aniline & Film Corp., 435 Hudson St., N. Y. 14
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland
Monsanto Chem. Co., St. Louis
National Starch Products, Inc., 270 Madison Ave., N. Y.
Pennsylvania Industrial Chem. Corp., Clairton, Pa.
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Rohm & Haas Co., 222 W. Washington Sq., Phila.
A. E. Staley Mfg. Co., Decatur, Ill.
Swift & Co., Chicago
UBS Chem. Co., 491 Main St., Cambridge, Mass.
T. F. Washburn Co., 2244 Elston Ave., Chicago 14

AEROSOL CAPS (PROTECTOR CAPS)

Armstrong Cork Co. Lancaster, Pa.
J. L. Clark Mfg. Co., 23rd Ave. & 6th St., Rockford Ill.
Crown Cork & Seal Co., 9300 Ashton Rd., Phila. 34
Eastern Cap & Closure Co., 725 N. Haven Ave., Baltimore
Gibson Associates, Summit Ave., Berkeley Hts., N. J.
Gilbert Plastics, Inc., 1415 Chestnut Ave., Hillside, N. J.
Hazel-Atlas Glass Co., Wheeling, W. Va.
Owens-Illinois Glass Co., Toledo, O.
Sterling Seal Co., 316 W. 16th St., Erie, Pa.
West Penn Mfg. & Supply Co., Brackenridge, Pa.

AEROSOL CONSULTANTS

Robert A. Foresman, Jr., 1690 Margaret St., Phila.
Walter Frank Organization, Box 11C, Elmhurst, Ill.
Lodes Aerosol Consultants, Inc., 730 5th Ave., N. Y.
Reed Research Corp., Mill St., Huntington, Shelton, Conn.

AEROSOL CONTAINERS

Aerated Container Corp., 39 S. LaSalle St., Chicago 3
American Can Co., 100 Park Ave., N. Y. C.
Bridgeport Brass Co., Bridgeport, Conn.
Colt's Mfg. Co., 17 Van Dyke Ave., Hartford, Conn.
Continental Can Co., 100 E. 42nd St., N. Y. 17
Crown Cork & Seal Co., 9300 Ashton Rd., Philadelphia 34
E. I. du Pont de Nemours & Co., Wilmington, Dela.

AEROSOL CONTAINERS (Contd.)

Emson Research, Inc., Burr Court, Bridgeport, Conn.
Owens-Illinois Glass Co., Toledo 1, O.
Hazel Atlas Glass Div., Wheeling, West Va.
Peerless Tube Co., Bloomfield, N. J.
Precision Valve Co., 700 Nepperhan Ave., Yonkers, N. Y.
Ronor Corp., 1360 W. 9th St., Cleveland 13
Tube Manifold Corp., 429 Bryant, N. Tonawanda, N. Y.
Wheaton Glass Co., Millville, N. J.
White Metal Mfg. Co., 1012 Grand, Hoboken, N. J.

AEROSOL DEODORANTS (Room Deodorants)

Airkem, Inc., 241 E. 44th St., N. Y. 17
Aeropak, Inc., 3005 W. 47th St., Chicago
Aerosol Techniques, Inc., 111 Silliman, Bridgeport, Conn.
Airosol Co., Neodesha, Kas.
A-M-R Chemical Co., 985 E. 35th St., Bklyn.
Associated Brands, 50 Wallabout St., Bklyn.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Bridgeport Brass Co., Bridgeport 2, Conn.
Chase Products Co., 1816 W. St. Chas. Rd., Maywood, Ill.
Conn. Chemical Research Corp., Bridgeport 5, Conn.
Chem. Service of Baltimore, Howard & West, Baltimore
Continental Filling Corp., Danville, Ill.
Eveready Press. Prod. Co., Cleveland 9, O.
Fluid Chem. Co., 878 Mt. Prospect, Newark 4, N. J.
Gard Industries, Inc., 1733 Green Bay Rd., Wilmette, Ill.
Hysan Products Co., 936 W. 38th Pl., Chicago 9
McGuire & Co., 833 47th Ave., Oakland, Cal.
Old Empire, Inc., Mt. Pros. & Verona, Newark, N. J.
Orb Industries, Wallingford Rd., Media, Pa.
Par Industries, 2193 E. 14th St., Los Angeles 21
Peterson Filling & Packaging Co., Danville, Ill.
Powr-Pak, Inc., 647 North Ave., Bridgeport, Conn.
Regal Chem. Corp., 115 Dobbin St., Bklyn. 22
Gene Rose Co., 1637 S. Kilbourn, Chicago 23
Stalfort Pressure-Pak Corp., 319 W. Pratt, Baltimore
Sprayway, Inc., 7640 Vincennes, Chicago 20
James Varley & Sons, 1200 Switzer, St. Louis
Western Filling Corp., 4151 Bandini, Los Angeles 23

AEROSOL DIP TUBES

Anchor Plastics Co., 36-36 36th St., Long Island City 6
Hydrawlik Co., 130 E. 1st Ave., Roselle, N. J.

AEROSOL FILLING (for the Trade)

Aeropak, Inc., 3005 W. 47th St., Chicago
Aerosol Corp. of the South, Arlington, Tenn.
Aerosol Filling Div., Puritan Dist. Co., 160 Washington St., N., Boston
Aerosol Service AG., Weilstrasse 12, Basel, Switzerland
Aerosol-Service GmbH, Blumenstrasse 53, Hamburg, Germany
Aerosol Techniques, Inc., 111 Silliman Ave., Bridgeport, Conn.
Airosol Co., Inc., Neodesha, Kansas
American Potash & Chem. Corp., 3100 E. 26th St., Los Angeles, Calif.
A-M-R Chemical Co., 985 E. 35th St., Bklyn.
Armstrong Laboratories, 421 LaGrange St., W. Roxbury, Mass.
Associated Brands, 50 Wallabout St., Bklyn.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Bridgeport Brass Co., Bridgeport 2, Conn.
Capitol Packaging Co., 1441 Circle Ave., Forest Park, Ill.
Chase Products Co., 1816 W. St. Charles Rd., Maywood, Ill.
Cleve. Aerosol Filling Corp., 9801 Harvard, Cleveland 5
Conn. Chemical Research Corp., Bridgeport 5, Conn.
Continental Filling Corp., 123 N. Hazel St., Danville, Ill.
Eveready Pressurized Products Co., Cleveland 9
Fluid Chemical Co., 878 Mt. Prospect, Newark 4, N. J.
Gard Industries, Inc., 733 Green Bay Rd., Wilmette, Ill.
Hysan Products Co., 932 W. 38th Pl., Chicago 9, Illinois
Jasgo Chem. Co., 1128 St. Johns Pl., Bklyn. 13
Lawson Chem. Prods. Co., Culver City, Calif.
Lenk Co., Franklin, Ky.
McGuire & Co., 833 47th Ave., Oakland, Calif.
National Spray Can Filling Corp., 1238 E. 14th St., Brooklyn
Old Empire, Inc., Mt. Prospect & Verona, Newark, N. J.
Pactra Chemical Co., 1213 N. Highland, Los Angeles
Par Industries, Inc., 2193 E. 14th St., Los Angeles 21
Peterson Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Powr-Pak, Inc., 647 North Ave., Bridgeport, Conn.
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kansas
Regal Chem. Corp., 115 Dobbin St., B'klyn 22, N. Y.
Ronor Corp., 1360 W. 9th St., Cleveland

AEROSOL SALES UP 592% IN FIVE YEARS*

*Source: Chemical Specialties Manufacturers Association survey—1951 through 1955 (last year for which complete figures are available).

LET CONTINENTAL'S EXCLUSIVE LINE OF SIX DOME-TOP AEROSOLS HELP YOU KEEP PACE WITH THIS GROWING MARKET

Looking for the right package to help you ride the trend to bigger aerosol sales? Then take your pick from Continental's exclusive family of six dome-top aerosols—sized from a dainty 3 oz. right up to a whopping 16 oz.

Whatever your product—insecticide, hair spray, air freshener or other—it's sure to stand out in a dome-top lithographed by Continental's master craftsmen. And, because they let you fill all your container needs with one order, Continental dome-tops can trim your shipping and handling costs. Engineering and research services are available, plus contacts with valve suppliers and commercial fillers, if you wish.

Let Continental's line of six dome-top aerosols start selling for you. Along with a full range of sizes, Continental's expanded production facilities now offer rapid delivery from manufacturing points across the U. S. Call soon.

CONTINENTAL CAN COMPANY

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Central Division: 135 So. La Salle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4

Our Plant . . . *Your Warehouse*

Besides ample facilities for handling your bulk ingredients, we have extensive warehousing space for the storage of your products after packaging. When it's time to ship, our personnel and equipment are geared to move large or small orders in a hurry . . . and we're glad to handle drop shipping. We have direct railroad sidings and trucking service at our door. As a result, our plant can serve as *your warehouse* . . . a central distributing point . . . saving time and cutting costs. For details about our complete services in contract filling (liquid, pressurized or aerosol) write, 'phone or wire . . .

PETERSON
Filling and Packaging Co.
HEGELER LANE • DANVILLE, ILLINOIS

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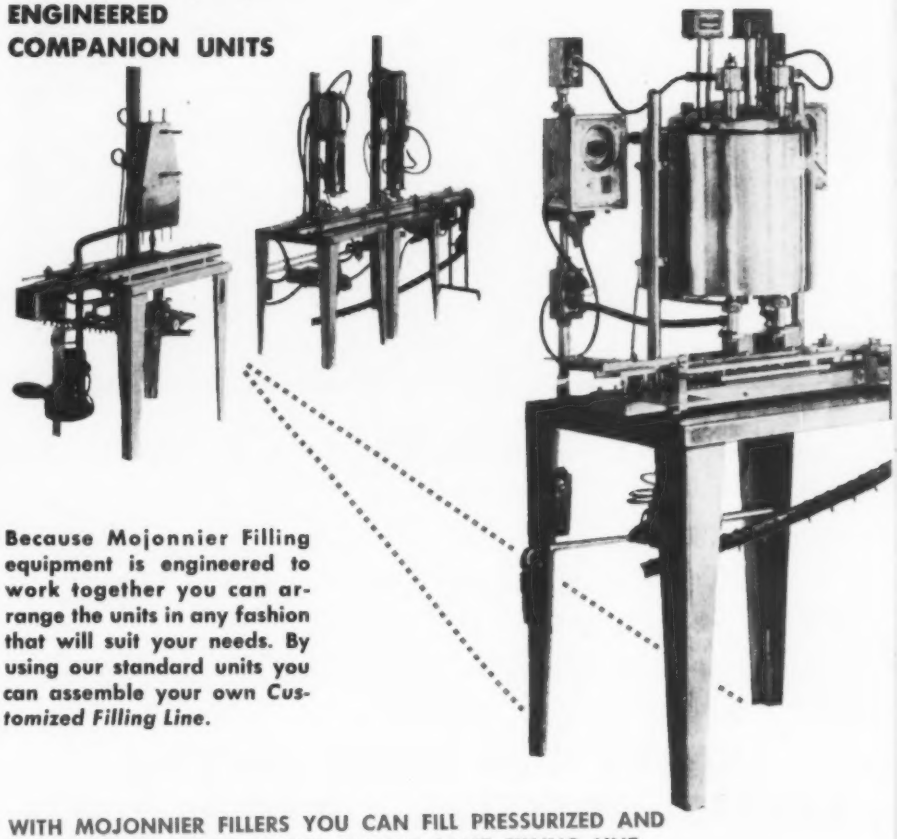
FOR ALL YOUR FILLING EQUIPMENT NEEDS

DESIGN YOUR OWN THIN LIQUID FILLING LINE BY USING mojonnier PRE-ENGINEERED

electromatic "add-a-unit" fillers

AND MOJONNIER ENGINEERED COMPANION UNITS



Because Mojonnier Filling equipment is engineered to work together you can arrange the units in any fashion that will suit your needs. By using our standard units you can assemble your own *Customized Filling Line.*

WITH MOJONNIER FILLERS YOU CAN FILL PRESSURIZED AND NON-PRESSURIZED PRODUCTS ON THE SAME FILLING LINE

For any thin liquid filling problem, check Mojonnier before you buy! Mojonnier Fillers and unitized companion units can be combined to give you single or multiple purpose filling lines. These highly versatile machines eliminate costly investment in single purpose equipment that must stand idle if production requirements drop. With Mojonnier equipment in your plant, you can quickly rearrange the units to perform a different job, giving you a wide scope of products you can handle. You get more productive capacity for your machinery dollar when you equip your plant with *Mojonnier Multi-Purpose Filling Lines!*

LOOK FOR YOUR NEEDS BELOW

2
Air Cleaners
23
General Purpose Fillers
6
Hot Product Fillers
6
Cold Product Fillers
3
Rotary Fillers
2
Piston Fillers
21
Aerosol Fillers
2
Corrosive Product Fillers
4
Plastic Carton Fillers
6
Pressure Fillers
2
Can Crimpers
4
Bottle Crimpers
2
Crowners
2
Screw Cappers
2
Lid Tighteners
2
Cap Feeders
2
Unscramblers
4
Coders
2
Labelers
2
Purgers
7
Water Baths

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Refrigeration Units
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Steam Generators
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Propellent Reclaimers
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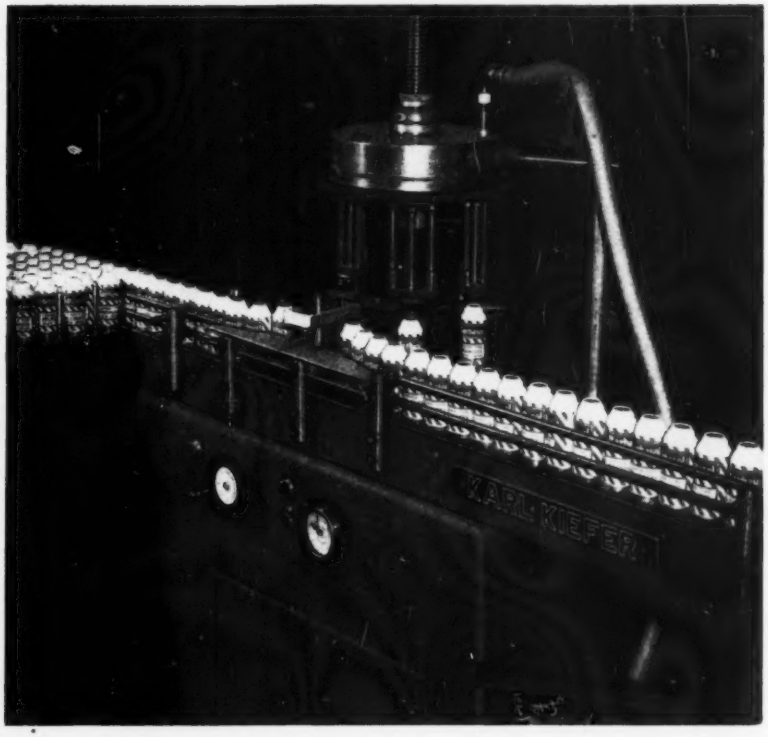
9151 Fullerton Ave.
Franklin Park, Ill.

NOW! Kiefer QUALITY EMBRACES AEROSOL

Appearing photograph shows the volumetric filling of shaving cream in the Barbasol plant.

KIEFER CADET VARI-VISCO FILLER . . .

has been doing a real job with this nationally advertised product for some years.



Kiefer Cadet Model Vari-Visco Filling Machine does beautiful and profitable work in every installation of varied industries.

Assures a solid volumetric "bottom-up" delivery of viscous materials . . . also same accurate volumetric filling of liquids, without splash or drip . . . quick.

Kiefer's recognized container cleaning and filling equipment is enhanced by the timely introduction of

KIEFER HIGH SPEED PRECISE AEROSOL PRESSURE CHARGING UNITS

Regard this as a most important accomplishment of a long-established and dependable company.

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AEROSOL FILLING (Contd.)

Gene Rose Co., 1637 S. Kilbourn Ave., Chicago 23
Schaeffer Paint Co., 334 W. Marion St., Lancaster, Pa.
Sprayon Products, Inc., 2075 East 65th St., Cleveland 3
Stalfort Pressure-Pak Corp., 319 W. Pratt St., Baltimore
Sprayway, Inc., 7638 Vincennes Ave., Chicago 20
Western Filling Corp., 4151 Bandini Blvd., Los Angeles 23

AEROSOL FILLING EQUIPMENT

Aerated Container Corp., 39 S. La Salle St., Chicago 3
Alpha Engineering & Machine Wks., Inc., 800 W. Central Rd., Mt. Prospect, Ill.
Automatic Scale Co., Joliet, Ill.
Bridgeport Brass Co., Bridgeport 2, Conn.
Builders Sheet Metal Works, 108 Wooster St., N. Y. 12
Consolidated Packaging Mchy. Co., 1400 West Ave., Buffalo, N. Y.
Doran Bros. Inc., 30 Shelter Rock Rd., Danbury, Conn.
Elgin Mfg. Co., Elgin, Ill.
Filler Machine Co., 10 Penn Ave., Phila. 11
Hope Machine Co., 9400 State Road, Phila., Pa.
Horix Manufacturing Co., Pittsburgh 4
Island Equipment Corp., 27-01 Bridge Plaza N., Long Island City, N. Y.
Karl Kieffer Machine Co., 923 Martin St., Cincinnati
Mojonnier Associates, Inc., 9151 Fullerton Ave., Franklin Park, Ill.
M. R. M. Co., 191 Berry St., Bklyn., 11
Oil Equipment Laboratories, 600 Pearl St., Elizabeth, N. J.
Weigh Right Automatic Scale Co., Joliet, Ill.

AEROSOL FORMULATIONS

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Dominion Products, Inc., 10-40 44th Drive, Long Island City 1, N. Y.
Fairfield Chem. Div., 441 Lexington Ave., N. Y. 17
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland
Hercules Powder Co., 961 Market St., Wilmington
Hewitt Soap Co., Dayton, O.
McLaughlin Gormley King Co., 1715 5th St., SE., Minneapolis
S. B. Penick & Co., 50 Church St., N. Y.
Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Propel Chemicals, Inc., 262 Huron St., Brooklyn, N. Y.
Van Dyk & Co., Belleville 9, N. J.

AEROSOL HAIR LACQUERS

Aerosol Techniques, Inc., 111 Silliman, Bridgeport, Conn.
Aeropak, Inc., 3005 W. 47th St., Chicago
Associated Brands, Inc., 50 Wallabout St., Bklyn.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Bridgeport Brass Co., Bridgeport 2, Conn.
Chase Products Co., 1816 W. St. Chas. Rd., Maywood, Ill.
Conn. Chemical Research Corp., Bridgeport 5, Conn.
Continental Filling Corp., Danville, Ill.
Fluid Chem. Co., 878 Mt. Prospect, Newark 4, N. J.
Gard Industries, Inc., 733 Green Bay Rd., Wilmette, Ill.
Old Empire, Inc., Mt. Pros & Verona, Newark, N. J.
Par Industries, 2193 E. 14th St., Los Angeles 21
Peterson Filling & Packaging Co., Danville, Ill.
Regal Chem. Corp., 115 Dobbin St., Bklyn. 22
Stalfort Pressure-Pak Corp., 319 W. Pratt, Baltimore
Sprayway, Inc., 7640 Vincennes, Chicago 20
Western Filling Corp., 4151 Bandini, Los Angeles 23

AEROSOL INSECTICIDES

Airkem, Inc., 241 E. 44th St., N. Y. 17
Aerosol Techniques, Inc., 111 Silliman, Bridgeport, Conn
Airosol Co., Neodesha, Kas.
A.M.R. Chem. Co., 985 E. 35th St., Bklyn.
Associated Brands, 50 Wallabout St., Bklyn.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Bridgeport Brass Co., Bridgeport 2, Conn.
California Spray Chem. Corp., Richmond, Calif.
Chase Products Co., 1816 W. St. Chas. Rd., Maywood, Ill.
Conn. Chemical Research Corp., Bridgeport 5, Conn.
Chem. Service of Baltimore, Howard & West, Baltimore
Continental Filling Corp., Danville, Ill.
Eveready Press. Prod. Co., Cleveland 9, O

FOR THAT AEROSOL IN YOUR FUTURE..

Thoroughly tested perfume compounds, developed in the D&O Perfume Department and checked through all stages to finished product in the Aerosol Laboratory. Shelf tested for stability, corrosion and clogging difficulties. Solubility and discoloration problems eliminated. Complete data, including formulations, available. Let the D&O Perfume and Aerosol technicians put that sales-clinching (problem-free) fragrance into the "Aerosol in Your Future."

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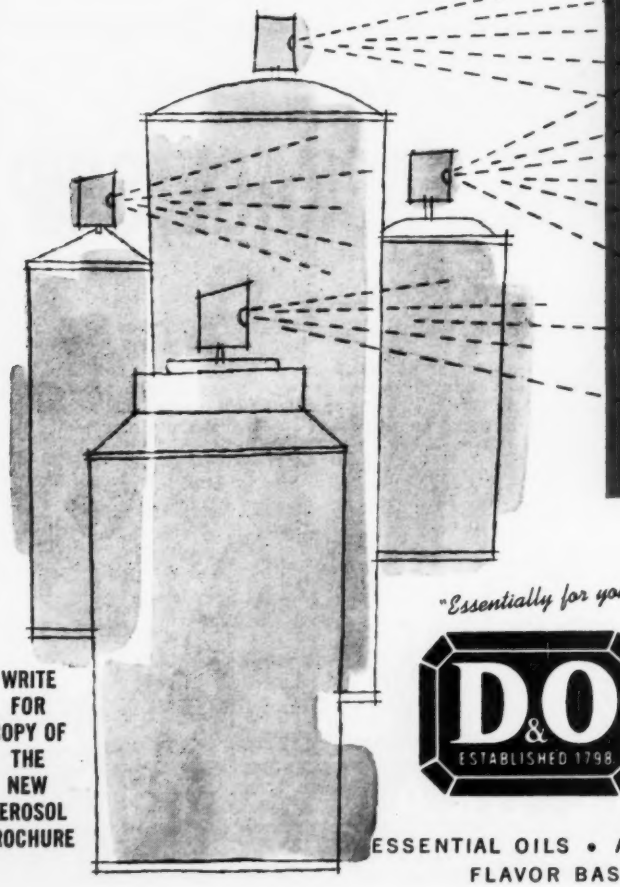
CREAMS
DEODORANTS
HAND LOTIONS
SHAMPOOS
SHAVE CREAMS
HAIR LACQUERS
SPACE DEODORANTS
INSECTICIDES
PET PRODUCTS



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ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES
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AEROSOL INSECTICIDES (Contd.)

Fluid Chem. Co., 878 Mt. Prospect, Newark 4, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Gard Industries, Inc., 733 Green Bay Rd., Wilmette, Ill.
Hysan Products Co., 936 W. 38th Pl., Chicago 9
Orb Industries, Wallingford Rd., Media, Pa.
Par Industries, 2193 E. 14th St., Los Angeles 21
Peterson Filling & Packaging Co., Danville, Ill.
Powr-Pak, Inc., 647 North Ave., Bridgeport, Conn.
Regal Chem. Corp., 115 Dobbin St., Bklyn 22
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Stalfort Pressure-Pak Corp., 319 W. Pratt, Baltimore
Sprayway, Inc., 7640 Vincennes, Chicago 20
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
James Varley & Sons, 1200 Switzer, St. Louis
Western Filling Corp., 4151 Bandini, Los Angeles 23
Wilco Co., 4425 Bandini, Los Angeles 23

AEROSOL LEAK DETECTORS

Island Equipment Corp., 27-01 Bridge Plaza North, L. I. City 1, N. Y.
General Electric Company, Schenectady 5, N. Y.
Mojonnier Associates, Inc., 9151 Fullerton Ave., Franklin Park, Ill.

AEROSOL PAINTS, LACQUERS, etc.

Aeropak, Inc., 3005 W. 47th St., Chicago
Aerosol Techniques, Inc., 111 Silliman, Bridgeport, Conn.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Bridgeport Brass Co., Bridgeport 2, Conn.
Chase Products Co., 1816 W. St. Chas. Rd., Maywood, Ill.
Conn. Chem. Research Corp., Bridgeport 5, Conn.
Cleve. Aerosol Filling Corp., 9801 Harvard, Cleveland 5
Continental Filling Corp., Danville, Ill.
Eveready Press. Prod. Co., Cleveland 9
Gard Industries, Inc., 733 Green Bay Rd., Wilmette, Ill.
Par Industries, 2193 E. 14th St., Los Angeles 21
Peterson Filling & Packaging Co., Danville, Ill.
Sprayon Products, Inc., 2075 E. 65th St., Cleveland
Stalfort Pressure-Pak Corp., 319 W. Pratt, Baltimore

AEROSOL PERFUMES

American Aromatics, Inc., 24 E. 21st St., N. Y. 10
Alfa Essential Oil Co., 6 Varick St., N. Y.
Alpine Aromatics, Inc., Metuchen, N. J.
American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Aromatic Products, Inc., 235 4th Ave., N. Y. 3
W. J. Bush & Co., 137 Boston Post Rd., Cos Cob, Conn.
Charabot & Co., 114 E. 25th St., N. Y.
Ph. Chaleyer, Inc., 160 E. 56th St., N. Y.
Antoine Chiris Co., 212 E. 23rd St., N. Y.
Gerard J. Danco, Inc., 5 E. 19th St., N. Y. C.
De Laire, Inc., 240 W. 30th St., N. Y.
Descollonges, Inc., 160 5th Ave., N. Y. 10
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
Dragoco, Inc., 432 4th Ave., N. Y. 16
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Eastman Chemical Prods. Co., Kingsport, Tenn.
Felton Chemical Co., 603 Johnson Ave., Bklyn.
Fine Chems. Div., Shulton, Inc., 630 5th Ave., N. Y.
Firmenich, Inc., 250 W. 18th St., N. Y.
Fleuroma, Inc., 38 W. 21st St., N. Y. 10
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fries & Fries, Inc., 110 E. 70th St., Cincinnati
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 305 E. 46th St., N. Y.
Heine & Co., 601 W. 26th St., N. Y. 1
D. W. Hutchinson & Co., 700 S. Columbus Ave., Mt. Vernon, N. Y.
Lautier Fils, 321 Fifth Ave., N. Y.
Samuel Klein, 4 Hanover Sq., N. Y. 14
Pierre Lemoine, 67 Cortlandt St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
N. Y. Aromatics Corp., Highbridge, N. J.
Newman Buslee Wolfe, 5800 Northwest Hy., Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J.
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
Perry Bros., Inc., 61-12 32nd Ave., Woodside 77, N. Y.
Polak's Frutal Wks., 33 Sprague Ave., Middletown, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y.

Give your aerosol product the advantage of a GIVAUDAN CUSTOM-MADE FRAGRANCE

The problems of compatibility, corrosion, solubility and fixation are especially complex in connection with odor selection for aerosols. Further, the choice of propellants and other ingredients, and the type of container all affect the performance of an aerosol fragrance, so that its selection becomes properly a matter for experts.

Such experts are ready to serve you at Givaudan's special Aerosol Research Laboratory. Our staff will welcome the opportunity to recommend, adapt, or "custom-make" a fragrance for your aerosol product which will give distinctive sales appeal and the utmost satisfaction under the particular conditions governing its formulation and use. We invite your inquiries.

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Better perfume materials through constant research and creative ability

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AEROSOL PERFUMES (Contd.)

Polarome Co., 73 Sullivan St., N. Y. C.
Reynaud, Ltd., 355 W. 52nd St., N. Y. 19
Rhodia, Inc., 60 E. 56th St., N. Y.
F. Ritter & Co., 4001 Goodwin Ave., Los Angeles 39
Roubechez, Inc., 8 E. 12th St., N. Y. 3
Roure-Dupont, Inc., 366 Madison Ave., N. Y.
H. C. Ryland, Inc., 161 Water St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Edwin Seebach Co., 912 Broadway, N. Y.
Seeley & Co., Nyack, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Products Corp., 725 Broadway, N. Y. 3
Ungerer & Co., 161 Avenue of Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y.
Van Dyk & Co., Belleville, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

AEROSOL PRODUCTS (Filled Containers for the Trade)

Airkem, Inc., 241 E. 44th St., N. Y. 17
Aeropak, Inc., 3005 W. 47th St., Chicago
Aerosol Corp. of the South, Arlington, Tenn.
Aerosol Filling Div., Puritan Dist. Co., 160 Washington St., N., Boston
Airosol Co., Inc., Neodesha, Kan.
American Potash & Chem. Corp., 3100 E. 26th St., Los Angeles, Calif.
A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
Associated Brands, 50 Wallabout St., Bklyn.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Bridgeport Brass Co., Bridgeport 2, Conn.
California Spray-Chemical Corp., Richmond, Calif.
Carbide & Carbon Chem. Co., 30 E. 42nd St., N. Y. 17
Chase Products Co., 1816 W. St. Charles Rd., Maywood, Ill.
Chemical Service of Baltimore, Howard & West Sts., Baltimore, Md.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Columbia Chemical Co., 154 E. Erie St., Chicago 11, Ill.
Connecticut Chem. Research Corp., Bridgeport 5, Conn.
Davies Young Soap Co., Dayton, Ohio

AEROSOL

Interested in explosive aerosol sales records like these set in 1955?

Hair lacquers 53,790,785 Units per year
Shaving Lotions 45,387,375 Units per year
Insecticides 47,232,131 Units per year

Call GENERAL today!

PACKAGING

can be sales dynamite for you!

You've seen it happen with hair lacquers . . . shave creams . . . insecticides. Established or new types of products—*it makes no difference.*

Each year booming aerosol sales hit new highs.

Is *your product* a likely candidate for aerosol packaging?

Yes, if it can be sprayed, brushed on, dusted or daubed. Here's how to make the first move that might lead to an explosive sales boom for you!

Call General Chemical for technical and market advice. No cost or obligation. If your product needs development, we will work with you. Whenever you are ready to market, we will direct you to capable contract fillers who will put up your product in aerosol form for test marketing, as well as handle commercial production afterwards. To arrange for a special presentation on aerosols and the growing aerosol market, write or call "Genetron" Department, General Chemical Division, Allied Chemical & Dye Corporation, 40 Rector Street, New York 6, N. Y.

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The Right Propellant for Every Aerosol Need!

Call on General for:

Free fact-packed technical manuals, market information

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Field assistance with propellant storage, handling

GENERAL CHEMICAL DIVISION · Allied Chemical & Dye Corporation

40 Rector Street, N. Y. 6, N. Y.

Package for profit in '57 with Du Pont "Freon" propellents

Space spray, residual spray, foam or powder—Du Pont can furnish a carefully formulated "Freon" propellent best for your aerosol product. Requirements of pressure, solubility, stability, particle size and safety are sure to be met by one of the over 25 "Freon" propellent solutions available from Du Pont.

One of these Freon* propellent solutions is exactly right for your aerosol product

"FREON" PROPELLENT	PRODUCT TYPE			
	SPACE SPRAY	SURFACE SPRAY	POWDER SPRAY	WATER-BASED FORMULAE
"FREON-12" dichlorodifluoromethane	(high-pressure, √ 70 psig)	√		
"FREON-12"-"FREON-11" solutions dichlorodifluoromethane trichloromonofluoromethane	(pressure range √ 30-40 psig)	(pressure range √ 12-40 psig)	(pressure range √ 10-70 psig)	
"FREON-114" dichlorotetrafluoroethane		(12 psig) √		
"FREON-12"-"FREON-114" solutions dichlorodifluoromethane dichlorotetrafluoroethane			(pressure range √ 12-70 psig)	√ (12-60 psig, also for glass-bottled aerosols)
"FREON-12"-"FREON-113" solutions dichlorodifluoromethane trichlorotrifluoroethane			(pressure range √ 10-70 psig)	√

NOTE: This chart indicates types of "Freon" propellents available. The exact one chosen will depend on the product dispensed and the spray pattern desired. "Freon-12"—"Freon-114" solutions are recommended for water-base products because of their solubility in presence of water.

These outstanding qualities make Du Pont "Freon" your best propellent buy

- Safe—nonflammable, nonexplosive, virtually nontoxic.
- Noncorrosive.
- Stable and uniform in quality.
- Available in wide range of pressures.
- Good solvency properties.
- Applicable to all types of aerosols—sprays, foams, powders.
- Backed up with complete marketing and laboratory service.

You can call on Du Pont's experienced chemists and marketing experts if you need help with your aerosol manufacturing or sales problems. Be sure to call on Du Pont, also, to supply just the right aerosol propellent for your product. For more information or assistance write to E. I. du Pont de Nemours & Co (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.

FREON

Safe Propellents

"Freon" is Du Pont's registered trademark for its fluorinated hydrocarbon propellents.

DU PONT

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

IMMEDIATE ACCEPTANCE

Thanks to VCA *Metered Valves!*

SHULTON'S *new brilliant spray perfumes make exciting gifts . . . thanks to VCA Metered Valves.*

Three more famous names have entered into the Aerosol market with new products and practically over night saw their sales volume skyrocket, thanks to VCA's sensational, exclusive Metered Valve!

If *your* product needs a 'lift' into a brand-new volume market the VCA Metered Valve* may be your answer. THE SPRAY IS MEASURED! THE RIGHT AMOUNT TO SERVE THE PURPOSE IS RELEASED! NOT ONE DROP IS WASTED! Your customer gets full value.

VCA is ready to help you!

Our many years of valve design experience and exacting standards of manufacture will solve your Aerosol packaging problem. Call today, or send in your specifications for samples and prices.

*Pressure and cold filled in glass, aluminum and other 1" opening standard containers for every formula.

VCA INCORPORATED

1720 Fairfield Ave., Bridgeport, Conn.

CORDAY'S *famous fragrances are big hits in leakproof atomizers . . . thanks to VCA Metered Valves.*

Courtesy of Modern Packaging

RIKER'S *trail blazing MEDIHALER, for relief of asthma, is the first internal medicinal aerosol for oral inhalation . . . thanks to VCA Metered Valves.*

B18 — GLASS — Sensational new Metered Valve for cosmetics, pharm., etc.

B8—GLASS—Standard, for perfumes, hair lac., cologne, etc.

B2—FOAM—with exclusive "twistlok" for soaps, shampoos, creams, cosmetics.

B9—ALL BRASS or STAINLESS STEEL—with Nylon stem for hair lac., shave cream, pharm., cosmetics, etc.

B18—NASAL SPRAY applicator for pharmaceutical use.

FOR EVERY NEED . . . A STANDARD VCA VALVE

AEROSOL PRODUCTS (Contd.)

Edco Corp., Elkton, Md.
Eveready Pressurized Prods., 1122 Belt Line St., Cleveland 9
Fluid Chem. Co., 878 Mt. Prospect Ave., Newark, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore, Md.
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., N. Y. 6
Gulf Oil Corp., Pittsburgh 30, Pa.
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9, Ill.
Lenk Co., Franklin, Ky.
Old Empire, Mt. Prospect & Verona Aves., Newark, N. J.
Pactra Chemical Co., 1213 Highland, Los Angeles
Patersen Filling & Packaging Co., Hegeler Lane, Danville, Ill.
Plasti-Kote, Inc., 9801 Harvard Rd., Cleveland 5
Powr-Pak, Inc., 647 North Ave., Bridgeport, Conn.
Regal Chemical Corp., 115 Dobbin St., B'klyn 22, N. Y.
Gard Industries, Inc., 733 Green Bay Rd., Wilmette, Ill.
Residex Corp., Foot of Centre St., Newark, N. J.
Ronor Corp., 1360 W. 9th St., Cleveland, Ohio
Sparklet Devices, Inc., 272 Badger Ave., Newark 8, N. J.
Sprayon Products, Inc., 2075 E. 65th St., Cleveland
Sprayway, Inc., 7640 Vincennes Ave., Chicago 20, Ill.
Texspray Co., 1701 Brun Ave., Houston, Tex.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Virginia Smelting Co., W. Norfolk, Va.
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Williams Chem. Co., 487 Broadway, N. Y. 13
G. H. Wood & Co., Box 34, Toronto, Ont., Canada

AEROSOL PROPELLANTS

Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Kolker Chem. Corp., 600 Doremus Ave., Newark, N. J.
Matheson Co., East Rutherford, N. J.
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Phillips Petroleum Co., Bartlesville, Okla.
Solvay Process Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.

HELP WANTED?

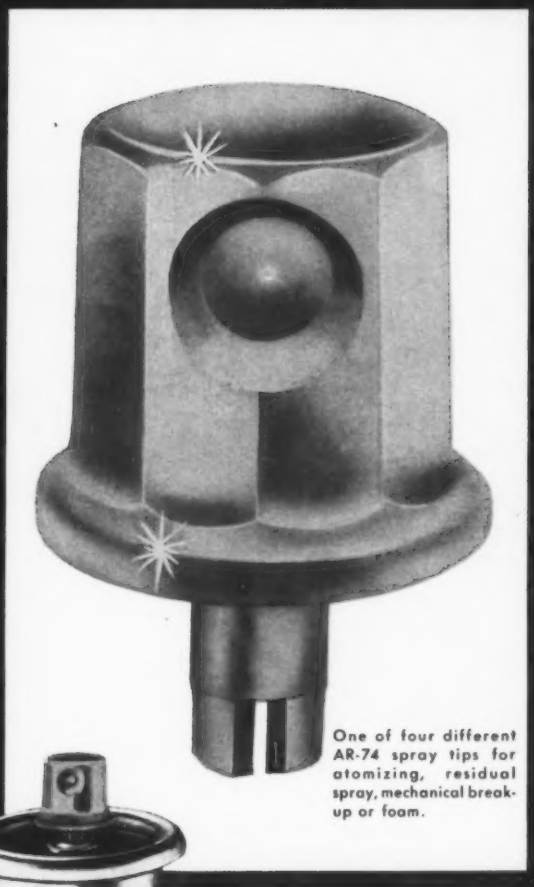
If you are unable to find a listing in this edition of the SOAP BLUE BOOK for some product which you want to purchase, — a piece of equipment, a raw material, a bulk or private brand item, — drop a line to the Editor and he will do his best to locate a source of supply for you. But first, check through all the possible listing heads in this edition. If you can't find what you want, we shall be glad to help.

SOAP BLUE BOOK

TIME-TESTED AND PROVEN:

THE ALL NEW AR-74 AEROSOL VALVE

solves many problems that have existed to this very moment!



One of four different AR-74 spray tips for atomizing, residual spray, mechanical break-up or foam.

INTERNAL METERING ELIMINATED!

All Metering in Removable Nylon Spray Tip

Aerosol Research Company . . . the originator of the first fast pressure-fill aerosol valves . . . now introduces the AR-74 . . . a new, improved type of aerosol valve for COLD *and* PRESSURE filling. Backed by years of development, the advancements built into the AR-74 satisfy needs that have existed since pressurized packaging began. Listed are a few of the many features that can improve your operation:

- **VARIETY OF SPRAY TIPS**—Available in various meterings for true and residual aerosols and foam products.
- **NEW 'MIST-MIZER TIP**—Available for ultra low-pressure and water-base spray formulations.
- **ALL NYLON SPRAY TIP**—Stays on, will not loosen from chemical reactions.
- **NO INTERNAL METERING**—Containers are virtually clog-proof!
- **EACH VALVE AUTOMATICALLY TESTED** by Automation to eliminate human factor.

FOR PRESSURE FILLING

the AR-74 gives you these extra advantages:

- **WORLD'S FASTEST FILLING**—There is no internal metering in lower assembly so valve is literally "wide-open"!
- **LOWER INVENTORY**—Stock only one type of lower assembly for all products, and select the tip with the proper metering for each formulation.
- **ALL NYLON TIPS** can be put on cold, by machine or hand, with no heat or lubricants needed.

* Patent applied for

AEROSOL RESEARCH COMPANY
743 Circle Avenue, Forest Park, Ill.
Cable Address: AERESCO, Forest Park, Illinois

Aerosol Research Company
743 Circle Avenue
Forest Park, Illinois

Please rush full information, prices and samples of the new AR-74 Valve today.

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Name_____ Title_____

Address_____

City_____ State_____

Microscopic examination for structure of plastic components after exposure to aerosol formulation

IMITATED... BUT NEVER DUPLICATED—

THE *Precision Valve*

From planning to commercial production, a new aerosol product requires infinite knowledge, effort and research. Almost every phase of human endeavor contributes its share to the completed product.

The final use, however, is dependent upon the proper valve, which is carefully designed, engineered, and manufactured to produce the proper dispersion of spray, mist or foam.

We at Precision are ready to help you, whether it be formula, package design, or production. Our facilities can be our contribution to the success of your business.

Whether it be a million and ten **or just ten**... Precision has or will develop the aerosol valve for your product. Our large quality control department assures you of the finest results along with the economy required for profitable sales.

Known throughout the World

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AEROSOL SHAVE CREAMS

Aerosol Techniques, Inc., 111 Silliman, Bridgeport, Conn.
Associated Brands, 50 Wallabout St., Bklyn.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Bridgeport Brass Co., Bridgeport 2, Conn.
Chase Products Co., 1816 W. St. Chas. Rd., Maywood, Ill.
Conn. Chemical Research Corp., Bridgeport 5, Conn.
Continental Filling Corp., Danville, Ill.
Davies-Young Soap Co., Dayton, O.
Fluid Chem. Co., 878 Mt. Prospect, Newark 4, N. J.
Gard Industries, Inc., 733 Green Bay Rd., Wilmette, Ill.
Old Empire, Inc., Mt. Pros. & Verona, Newark, N. J.
Par Industries, 2193 E. 14th St., Los Angeles 21
Peterson Filling & Packaging Corp., Danville, Ill.
Regal Chem. Corp., 115 Dobbin St., Bklyn 22
Gene Rose Co., 1637 S. Kilbourn, Chicago 23
Stalfort Pressure-Pak Corp., 319 W. Pratt, Baltimore
Sprayway, Inc., 7640 Vincennes, Chicago 20
Western Filling Corp., 4151 Bandini, Los Angeles 23

AEROSOL VALVES

Aerated Container Corp., 39 LaSalle St., Chicago 3
Aerosol Research Co., 743 Circle Ave., Forest Park, Ill.
Calmar Distributors, Inc., 5020 Spring Grove, Cincinnati, O.
Clayton Corp., 4205 Forest Park Blvd., St. Louis 8, Mo.
Delta Dynamics, Inc., 4615 W. 20th St., Chicago
Demert & Dougherty, 3001 W. 47th St., Chicago
Dill Manufacturing Co., 700 E. 82nd St., Cleveland, Ohio
Paul Engstrum Associates, 3121 9th St., N. Arlington, Va.
Nanuet Valve Co., Rt. 59, Nanuet, N. Y.
Newman-Green Co., 151 Interstate Rd., Addison, Ill.
Oil Equipment Laboratories, 600 Pearl St., Elizabeth, N. J.
Precision Valve Corp., 700 Nepperhan Ave., Yonkers, N. Y.
Pressure-Pack, Inc., 18550 Mack Ave., Detroit, Mich.
Risdon Manufacturing Co., Naugatuck, Conn.
A. Schrader's Son, Div. of Scovill Mfg. Co., 470 Vanderbilt Ave., Bklyn.
Seaquist Mfg. Corp., Cary, Ill.
Standard Valve & Coupler Corp., 1114 N. E. Ulysses St., Minneapolis, Minn.
Sun Tube Corp., 181 Long Ave., Hillside, N. J.
Super Whip Co., 715 S. Damen Ave., Chicago 12
VCA, Inc., 1720 Fairfield Ave., Bridgeport
Viking Valve Co., 419 E. Woodbine Ave., Louisville 8, Ky.

AGITATORS (see Mixing Machinery)

ALCOHOL (Ethyl and Denatured)

(see also Dealers)

Amsco Solvents & Chemicals Co., 4619 Reading Rd., Cincinnati 29, O.
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Carbide & Carbon Chemicals Co., 30 E. 42nd St., N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12, Ill.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Eastman Chemical Prods., Kingsport, Tenn.
Enjay Co., 15 W. 51st St., N. Y. 19
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22, Ind.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co. 230 Park Ave., N. Y.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Monsanto Chem. Co., St. Louis
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Publicker Industries, Inc., 1429 Walnut St., Phila. 2
Shell Chem. Corp., 50 W. 50th St., N. Y. 20
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans 18, La.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Joseph Turner & Co., Ridgefield, N. J.
U. S. Industrial Chemicals, Inc., 99 Park Ave., N. Y.
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11, Mich.
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee 14, Wis.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave., Grand Rapids, Mich.

ALCOHOL (Methyl or Wood) (see also Methanol)

(see also Dealers)

Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, O.
J. T. Baker Chem. Co., Phillipsburg, N. J.

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Basic raw materials for DETERGENTS that get clothes cleaner—faster!

As every housewife knows . . . getting clothes (or dishes or anything) bright and clean isn't half the chore it used to be before she started using today's super-cleaning detergents.

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The facilities of the famous Enjay Laboratories have just been enlarged to better serve you . . . in finding new ways that Enjay petrochemicals can help you. Call or write for additional information.

Enjay offers a widely diversified line of petrochemicals for industry:

ALCOHOLS & SOLVENTS: Lower Alcohols, Oxo Alcohols, Ketones and Solvents; OIL & FUEL IMPROVERS: Detergent-Inhibitors, V-I Improvers, Oxidation Inhibitors; CHEMICAL RAW MATERIALS: Olefins, Diolefins, Aromatics; ENJAY BUTYL RUBBER & VISTANEX.

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ALCOHOL (METHYL OR WOOD) (Contd.)

Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Carbide & Carbon Chemicals Co., 30 E. 42nd St., N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12, Ill.
Cliffs-Dow Chemical Co., Marquette, Mich.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Eastman Chem. Products, Kingsport, Tenn.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22, Ind.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Nitrogen Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Olin Mathieson Chem. Corp., Baltimore 3
Publicker Industries, Inc., 1429 Walnut St., Phila. 2
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans 18, La.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Joseph Turner & Co., Ridgefield, N. J.
U. S. Industrial Chemicals, Inc., 99 Park Ave., N. Y.
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11, Mich.
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee 14, Wis.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave. S.W., Grand Rapids, Mich.

ALCOHOL, ISOOCTYL

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Eastman Chem. Prods., Inc., Kingsport, Tenn.
Enjay Co., Inc., 15 W. 51st St., N. Y. 19

ALCOHOL, ISOPROPYL

Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, Ohio
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Carbide & Carbon Chemicals Co., 30 E. 42nd St., N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12, Ill.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Enjay Co., 15 W. 51st St., New York
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22, Ind.
Merck & Co., Rahway, N. J.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Ohio Solvent & Chemicals Co., 3470 W. 140th St., Cleveland
Sharples Chems. Div., Penna. Salt Mfg. Co., Phila. 2
Southern Sols. & Chems. Co., 917 Jefferson Highway, New Orleans
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
U. S. Industrial Chemicals, Inc., 99 Park Ave., N. Y.
Western Solvents & Chemicals Co. 6472 Selkirk Ave., Detroit 11, Mich.
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee 14, Wis.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave. S.W., Grand Rapids, Mich.

ALCOHOL, TRIDECYL

Enjay Co., 15 W. 51st St., N. Y. 19

ALDRIN

Shell Chem. Corp., 460 Park Ave., N. Y. 22

ALDRIN FORMULATIONS

Agricultural Chemicals, Inc., Greenville, Miss.
Agricultural Processing Industries, Denver, Colo.
Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Arizona Fertilizers, Inc., Phoenix, Arizona
Atlas Chem. Corp., Waynesboro, Ga.
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Carolina Chemicals, Inc., West Columbia, S. C.
Chapman Chem. Co., 707 Dermon Bldg., Memphis, Tenn.
Chemical Insecticide Corp., 129 Montague St., Bklyn.
Chipman Chemical Co., Bound Brook, N. J.
Coahoma Chemical, Inc., Beacon, N. Y.
Douglas Chem. Co., 620 E. 16th Ave., North Kansas City, Mo.
Flag Sulphur & Chemical Co., Tampa, Fla.
Florida Agricultural Supply Co., P. O. 658, Jacksonville, Fla.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., N. Y.
McLaughlin Gormley King Co., 1715 5th St., S.E., Minneapolis 14
Naco Fertilizer Co., Charleston, S. C.
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
S. B. Penick & Co., 50 Church St., N. Y. 8
Southern Solvents & Chemicals Corp., 1352 Jefferson Highway, New Orleans 18
Plainsman Supply Co., Plainview, Texas
Reasor-Hill Corp., Jacksonville, Ark.
Shell Chemical Corp., 460 Park Ave., N. Y. 22
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Triangle Chemical Co., Macon, Ga.
Tyner Petrus Co., W. Monroe, La.
Virginia-Carolina Chemical Corp., Richmond, Va.
Woolfolk Chemical Wks., Fort Valley, Ga.

ALLETHRIN

Benzol Products Co., Newark, N. J.
Fairfield Chem. Div., 441 Lexington Ave., N. Y. 17
McLaughlin, Gormley, King Co., 1715 S. E. 5th St., Minneapolis, Minn.
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
S. B. Penick & Co., 50 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1

ALUMINUM CHIPS (for Drain Solvent)

Aluminum Co. of Amer., Gulf Bldg., Pittsburgh
Belmont Smelting & Ref. Co., 318 Belmont Ave., Bklyn., N. Y.
Reynolds Metals Co., Louisville 1, Ky.

ALUMS

(see also Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Mallinckrodt Chemical Wks., 22 Mallinckrodt St., St. Louis 7
Merck & Co., Rahway, N. J.
Monsanto Chem. Co., St. Louis
Olin Mathieson Chem. Corp. Baltimore 3
Penna. Salt Mfg. Co., Phila. 2
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Joseph L. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

AMINOHYDROXY COMPOUNDS

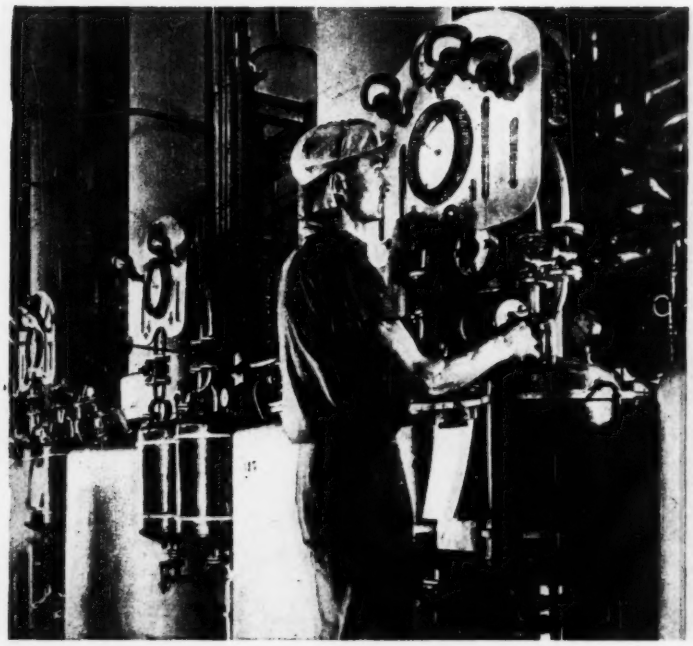
Antara Chems. Div., 435 Hudson St., N. Y. 14
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dow Chem. Co., Midland, Mich.
Jefferson Chemical Co., 260 Madison Ave., N. Y. 16
Mallinckrodt Chemical Wks., St. Louis 7
Monsanto Chem. Co., St. Louis
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.

AMMONIA HOUSEHOLD (see Household Ammonia)

AMMONIA WATER

Atlantic Refining Co., 260 S. Broad St., Phila.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
General Chemical Div. Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chemical Wks., St. Louis
Merck & Co., Rahway, N. J.
Monsanto Chem. Co., 1700 S. 2nd St., St. Louis
Nitrogen Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Penna Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Jos. Turner & Co., Ridgefield, N. J.

Givaudan aromatics—keystones of progress in soap perfumery



The tremendous variety of Givaudan aromatics is the result of a long and successful research program designed to isolate and synthesize the perfumes of nature in laboratory and factory and to add new aromatics unknown to nature. Constant improvement in production methods has made them the standards by which chemical purity and olfactory quality are measured. Listed below are a few from the hundreds of these Givaudan "keystones of progress":

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Anisic Aldehyde (Aubepine Liquid)
Benzyl Acetate
Carvacrol Technical NP
Cinnamic Aldehyde, Alcohol & Esters
Citronellol and Esters
Cyclamen Aldehyde
Dimethyl Anthranilate
Geraniol and Esters
Heliotropin
Hydroxycitronellal (Laurine®)
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Ionones (Irisones®)
Isobornyl Acetate
Linalool and Esters
Methyl Diphenyl Ether
Methyl Ionones (Raldeines®)
Moskene®
Musk Ambrette
Musk Ketone
Musk Xylol
Para Cresol and Derivatives
Phenyl Ethyl Alcohol and Derivatives
Styralyl Acetate (Gardenol)
Terpineol and Esters
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AMMONIUM BICARBONATE

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
J. T. Baker Chemical Co., Phillipsburg, N. J.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.

AMMONIUM CARBONATE

American Agricultural Chem. Co., 50 Church St., N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
Harshaw Chem. Co., 1945 E. 97th St., Cleveland
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Philipp Brothers Chems., Inc., 37 Wall St., N. Y.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.

AMMONIUM CHLORIDE

J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.

AMMONIUM THIOGLYCOLATE

Evans Chemetics, Inc., 250 E. 43rd St., N. Y. 17
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Summit Chem. Prods. Corp., Belleville 3, N. J.

AMYL SALICYLATE (see Aromatic Chemicals)

ANISE OIL (see Essential Oils)

ANT POISONS

A-M-R Chemical Co., 985 E. 35th St., Bklyn. 10
California Spray-Chemical Corp., Richmond, Calif.
Chase Prods. Co., 1816 St. Charles Rd., Maywood, Ill.
Chem. Insecticide Corp., 129 Montague St., Bklyn. 1
Fuld Bros., 702 S. Wolfe St., Baltimore
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Hysan Products Co., 936 W. 38th Place, Chicago
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
O. E. Linck Co., 51 James St., Montclair, N. J.
S. B. Penick & Co., 50 Church St., N. Y. 8
Pfaltz & Bauer, Inc., Empire State Bldg., N. Y.
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kans.
Residex Corp., 1500 W. Elizabeth Ave., Linden, N. J.
Senewald Drug Co., Inc., 2721 Chouteau Ave., St. Louis
Trio Chem. Wks., 341 Scholes St., Brooklyn
J. A. Tumbler Labs., 423 Hanover St., Baltimore
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
York Chem. Co., 23 Dean St., Bklyn.

ANTIOXIDANTS (For Soaps, Oils, Fats, etc.)

Antara Chemicals, Div. of General Aniline & Film Corp., 435 Hudson St., N. Y.
Archer-Daniels-Midland Co., Minneapolis 2
Benson Process Engineering Co., Eden, N. Y.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Dow Chem. Co., Midland, Mich.
Eastman Chem. Prods., Kingsport, Tenn.
Enjay Co., 15 W. 51st St., N. Y. 19
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Geigy Industrial Chemicals, Ardsley, N. Y.
B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 20
Griffin Chem. Co., 1000 16th St., San Francisco
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Jefferson Chem. Co., 260 Madison Ave., N. Y. 16
Koppers Co., Chamber of Commerce Bldg., Pittsburgh 19
Merck & Co., Rahway, N. J.
Monsanto Chem. Co., St. Louis
National Aniline Division, Allied Dye & Chem. Corp., 40 Rector St., N. Y.
Neville Chem. Co., Pittsburgh 25
Olin Mathieson Chemical Corp., Baltimore 3
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila. 2
Shell Chem. Corp., 50 W. 50th St., N. Y. 20
Sindar Corp., 330 W. 42nd St., N. Y. 18
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
Van Dyk & Co., Belleville 9, N. J.

ANTISEPTIC SOAP (see Soaps, Antiseptic)

ANTU CONCENTRATES

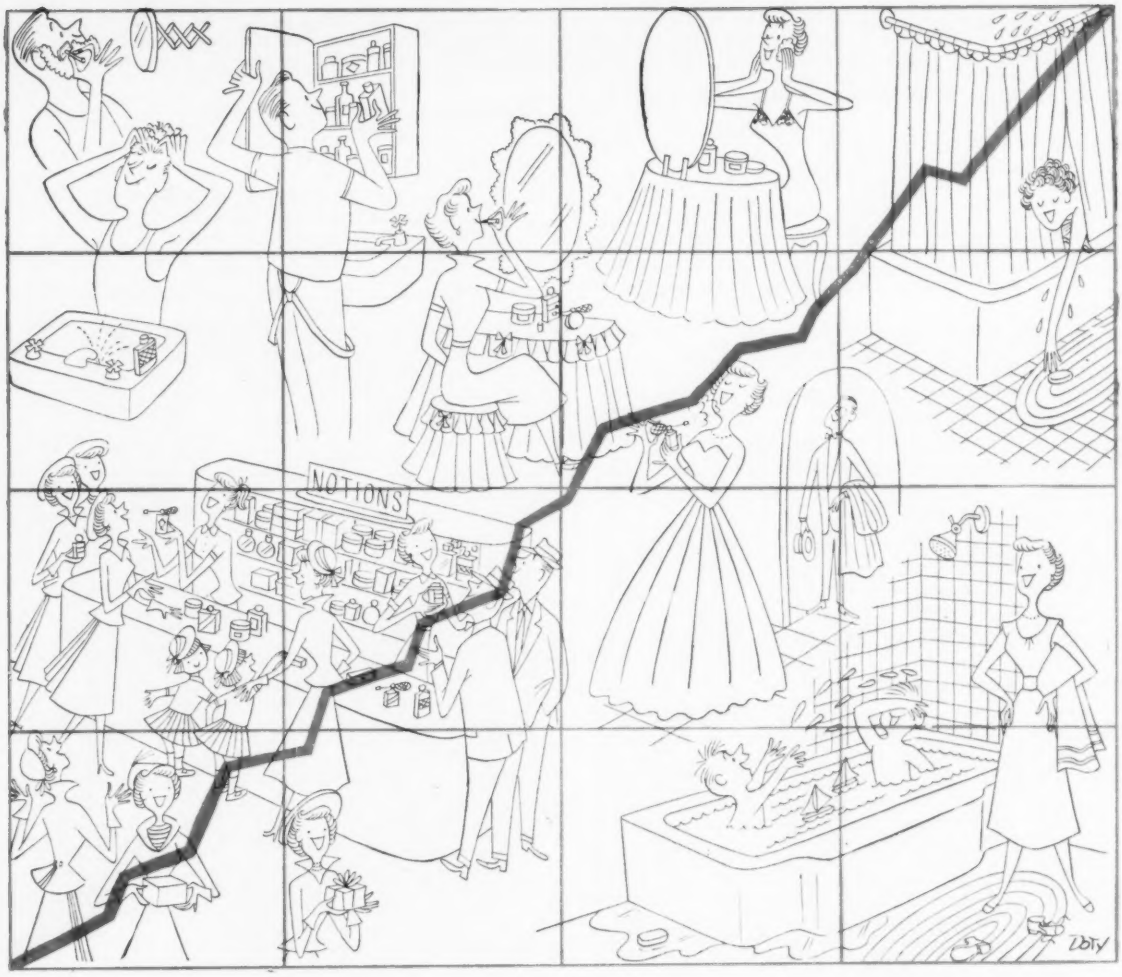
Chase Prods. Co., 1816 St. Charles Rd., Maywood, Ill.
Chem. Insecticide Corp., 129 Montague St., Bklyn.
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
General Chem. Div., Allied Dye & Chem. Corp., 40 Rector St., N. Y. 6
S. B. Penick & Co., 50 Church St., N. Y. 8
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
S. B. Penick & Co., 50 Church St., N. Y. 8
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
York Chem. Co., 23 Dean St., Bklyn. 1

APPLICATORS (for Floor Wax)

American Standard Mfg. Co., 2509 S. Green St., Chicago
American Textile Prods. Co., 5606 Euclid Ave., Cleveland
Beverly Manufacturing Co., 494 Main St., Boston 29
Chem. Service of Baltimore, Howard & West Sts., Baltimore
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Fuld Bros., 702 S. Wolfe St., Baltimore
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Laitner Brush Co., 2000 Brooklyn Ave., Detroit
Lowell Mfg. Co., 589 E. Illinois St., Chicago
Fred Mellor, Mfr., 961 Grimmett Dr., Shreveport, La.
Moran Brush Mfg. Co., 30 Manila Ave., Hamden, Conn.
Palmer Fixture Co., Box 347, Waukesha, Wisc.
D. B. Smith & Co., 414 Main St., Utica 2, N. Y.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties, 1001 S. Calif. Ave., Chicago

AROMATIC CHEMICALS (for Perfuming)

Alfa Essential Oil Co., 6 Varick St., N. Y.
Alpine Aromatics, Inc., 398 Main St., Metuchen, N. J.
American Aromatics, Inc., 24 E. 21st St., N. Y. 10
Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
W. J. Bush & Co., 137 Boston Post Rd., Cos Cob, Conn.
Ph. Chaleyer, Inc., 160 E. 56th St., N. Y.
Charabot, Inc., 114 E. 25th St., N. Y.
Antoine Chiris Co., 212 E. 23rd St., N. Y. C.
Delaire, Inc., 240 W. 30th St., N. Y.
Descollonges, Inc., 160 5th Ave., N. Y. 10
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
Dragoco, Inc., 432 4th Ave., N. Y. 16
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Eastman Chem. Prods., Kingsport, Tenn.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Fine Chems. Div., Shulton, Inc., 630 5th Ave., N. Y.
Firmenich, Inc., 250 W. 18th St., N. Y.
Fleetwood Prods. Co., 509 5th Ave., N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fries & Fries, Inc., 110 E. 70th St., Cincinnati
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 601 W. 26th St., N. Y.
Heine & Co., 601 W. 26th St., N. Y. 1
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
D. W. Hutchinson & Co., 700 South Columbus Ave., Mt. Vernon, N. Y
Kay-Fries Chems., Inc., 180 Madison Ave., N. Y. 16
Lautier Fils Inc., 321 Fifth Ave., N. Y.
George Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Neumann Buslee & Wolfe, Inc., 5800 Northwest Highway, Chicago
N. Y. Aromatics Corp., Highbridge, N. J.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
Perry Bros., Inc., 61-12 32nd Ave., Woodside 77, N. Y.
Polak's Frutal Wks., Inc., 33 Sprague Ave., Middletown, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Polarome Mfg. Co., 73 Sullivan St., N. Y. 12
Reynaud, Ltd., 355 W. 52nd St., N. Y. 19
Rhodia, Inc., 60 E. 56th St., N. Y. 22
Roubechez, Inc., 8 E. 12th St., N. Y. 3
Roure-Dupont, 366 Madison Ave., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.



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Seeley & Co., Nyack, N. Y.
Synfleur Scientic Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
A. M. Todd Co., Kalamazoo, Mich.
Tombarel Products Corp., 725 Broadway, N. Y. 3
Trubek Laboratories, E. Rutherford, N. J.
Ungerer & Co., 161 Avenue of Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y. 19
Van Dyk & Co., Belleville 9, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Chemical Co., 26 Verona Ave., Newark, N. J.

ARSENICAL DIPS

Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Insecticide Corp., 129 Montague St, Bklyn.
Chipman Chemical Co., Bound Brook, N. J.
Crystal Soap & Chemical Co., 6300 State Rd., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore 31, Md.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
James Good Co., 2104 Susquehanna Ave., Phila.
Kemiko Mfg. Co., 500 Chancellor Ave. Irvington, N. J.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
McLaughlin Gormley King Co., Minneapolis
Thompson-Hayward Chemical Co., 2015 Southwest Blvd, Kansas City, Mo.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis

ATOMIZERS (see Sprayers and Atomizers, Bottle)

BAG LINERS (see Liners)

BAGS (Cloth)

Bemis Bro. Bag Co., 601 S. 4th St., St. Louis
Chase Bag Co., 309 W. Jackson Blvd., Chicago
Fulton Bag & Cotton Mills, Atlanta, Ga.
Hammond Bag & Paper Co., Wellsburg, W. Va.
Mente & Co., Montegut & N. Villere Sts., New Orleans
Virginia-Carolina Chem. Corp., Richmond, Va.

BAGS (Multiwall)

Arkell & Smiths, Canajoharie, N. Y.
Bagpak Div., Int'l Paper Co., 220 E. 42nd St., N. Y.
Bemis Bro. Bag Co., 601 S. 4th St., St. Louis
Chase Bag Co., 509 W. Jackson Blvd., Chicago
Fulton Bag & Cotton Mills, Atlanta
Hammond Bag & Paper Co., Wellsburgh, W. Va.
Hudson Pulp & Paper Co., 505 Park Ave., N. Y.
Kraft Bag Corp., 630 – 5th Ave., N. Y. 20
National Container Corp., 7 Central Park West, N. Y. 23
St. Regis Paper Co., 230 Park Ave., N. Y.
Union Bag-Camp Paper Corp., 233 Broadway, N. Y.

BAGS, Paper

American Bag & Paper Corp., Water & South Sts., Phila.
Chase Bag Co., 309 W. Jackson Blvd., Chicago
Equitable Paper Bag Co., 45-50 Van Dam St., Long Island City, N. Y.
Gaylord Container Corp., 111 N. 4th St., St. Louis
Robert Gair Div., 155 E. 44th St., N. Y.
Milprint, Inc., Milwaukee 1, Wisc.
Oneida Paper Prods. Co., Clifton, N. J.
Premier Bag Co., Lyndhurst, N. J.
Union Bag-Camp Paper Corp., 233 Broadway, N. Y.
Western Waxed Paper Div., Crown Zellerbach Corp., San Leandro, Calif.

BAGS (Transparent Film)

American Bag & Paper Corp., Water & South Sts., Phila.
Arkell Safety Bag Co., 10 E. 40th St., N. Y. 16
Arvey Corp., 3462 N. Kimball Ave., Chicago
Bemis Bros. Bag Co., St. Louis 2
Canton Containers, Inc., Canton, O.
Chase Bag Co., 309 W. Jackson Blvd., Chicago
Continental Can Co., 100 E. 42nd St., N. Y.
Equitable Paper Bag Co., 45-50 Van Dam, L. I. C., N. Y.
Robert Gair Co., 155 E. 44th St., N. Y.
H & R Industries, Nazareth, Pa.
Howard Plastics, Council Bluffs, Iowa

BAGS (Transparent Film) (Contd.)

Milprint, Inc., Milwaukee, Wisc.
Nashua Corp., Nashua, N. H.
Oneida Paper Prods., Inc., 10 Clifton Blvd., Clifton, N. J.
Standard Packaging Corp., 551 5th Ave., N. Y.

BALSAMS (see Essential Oils)

BARREL LINERS, (see Liners)

BARRELS (Fibre)

Carpenter Container Co., 147—41st St., Brooklyn
Federal Fibre Corp., 3704 10th St., L. I. C., 1, N. Y.
Fibre Drum Co., 20 N. Wacker Dr., Chicago 6
Master Package Corp., Owen, Wisc.
Rheem Mfg. Co., 7600 S. Kedzie Ave., Chicago 29
Seymour & Peck Co., Blue Island, Ill.

BARRELS (Metal)

Bennett Industries, Peotone, Ill.
Columbia Can Co., 59-27 54th St., Maspeth 78, N. Y.
Eastern Can Co., Keap St. & Kent Ave., Bklyn.
Inland Steel Container Co., 6532 S. Menard St., Chicago
Jones & Laughlin Steel Corp., 405 Lexington Ave., N. Y. 17
National Steel Con. Corp., 67000 S. LeClaire, Chicago
Pressed Steel Tank Co., Milwaukee, Wis.
Republic Steel Package Co., 7930 Jones Rd., Cleveland
Rheem Mfg. Co., 7600 S. Kedzie Ave., Chicago
St. Louis Steel Package Co., St. Louis
U. S. Steel Prods. Co., 30 Rockefeller Plaza, N. Y.
Vulcan Containers Inc., Bellwood, Ill.
Vulcan Steel Container Co., 3315 N. 35th Ave., Birmingham, Ala.
Wheeling Corrugating Co., Wheeling, W. Va.

BARRELS (Wooden)

Atlas Plywood Corp., Boston 16, Mass.
Edwin Bell Cooperage Co., S. 17th St., Pittsburgh
Duff California Co., 100 Bush St., San Francisco
John Eppler Co., 1204 S. Sharp St., Baltimore
Gibbs Bros. Cooperage Co., Hot Springs, Ark.
Greif Bros. Cooperage Corp., Delaware, O.
International Cooperage Co., Niagara Falls, N. Y.
Monmouth Container Corp., Matawan, N. J.
Virginia Barrel Co., 178 Holland Ave., Staten Island, N. Y.

BARREL TILTERS

Economy Eng. Co., 2651 W. Van Buren St., Chicago
Formula Floor Products, 99 Frelinghuysen Ave., Newark, N. J.
Morse Mfg. Co., E. Syracuse, N. Y.

BARRIER CREAMS (see Hand Creams, Protective)

BASE OILS (see Insecticide Base Oils)

BATH SALTS

A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
Davies-Young Soap Co., Dayton 1, Ohio
Eagle Soap Corp., Huntington, Ind.
Hewitt Soap Co., Dayton, O.
Higley Chem Co., Dubuque, Iowa
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Lightfoot-Schultz Co., 380 Madison Ave., N. Y. C.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y. (Unperfumed)
Trio Chem. Wks., 341 Scholes St., Brooklyn
Welch, Holme & Clark Co., 439 West St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

BENTONITE

American Colloid Co., Merchandise Mart Plaza, Chicago
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Minerals & Chems. Corp. of America, Menlo Park, N. J.
L. A. Salomon & Bro., 216 Pearl St., N. Y.
F. E. Schundler & Co., Joliet, Ill.
Tamms Industries, Inc., 228 N. La Salle St., Chicago

United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Welch Holme & Clark Co., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.

BENZALDEHYDE

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dragoco, Inc., 432 4th Ave., N. Y.
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
R. W. Greeff Co., 10 Rockefeller Plaza, N. Y. 20
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Geo. Lueders & Co., 427 Washington Ave., N. Y. 13
Lautier Fils, 321 Fifth Ave., N. Y. 16
Magnus Mabee & Reynard, 16 Desbrosses St., N. Y.
Neumann, Buslee & Wolfe, Inc., 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 21st St., N. Y. 1
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y. 8
Polak's Frutal Wks., 33 Sprague Ave., Middletown, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y. 14
Rhodia, Inc., 60 E. 56th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Tennessee Prods. & Chem. Corp., American National Bank Bldg., Nashville, Tenn.
Tombarel Products Corp., 725 Broadway, N. Y. 3
Ungerer & Co., 161 Avenue of the Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57 St., N. W. 19
Van Dyk & Co., Belleville, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Chemical Co., 26 Verona Ave., Newark 4, N. J.

BENZENE HEXACHLORIDE (see also Lindane)

Baird & McGuire, Inc., Holbrook, Mass.
Calif. Spray-Chemical Corp., Richmond, Calif.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Michigan Chemical Corp., St. Louis, Mich.
Monsanto Chem. Co., St. Louis
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Private Brands Inc. 300 S. 3rd St., Kansas City, Kan.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
Tennessee Prods. & Chem. Corp., American National Bank Bldg., Nashville, Tenn.
Westvaco Mineral Prods. Div., Food Mach. & Chem. Corp., 161 E. 42nd St., N. Y.
Wyandotte Chemical Corp., Michigan Alkali Div., Wyandotte, Mich.

BENZOIC ACID (see Acids)

BENZOL (Benzene)

Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Chicago
Buffalo Solvents & Chemicals Corp., Box 73 Station B., Buffalo, N. Y.
Central Solvents & Chemicals Co., 2540 Flournoy St., Chicago 12
Concord Chemical Co., 205 S. 2nd St., Camden, N. J.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Dow Chem. Co., Midland, Mich.
Enjay Co., 15 W. 51st St., N. Y. 19
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Missouri Solvent & Chemical Co., 419 De Soto Ave., St. Louis
Neville Chemical Co., Pittsburgh
Ohio Solvents & Chemicals Co., 3570 W. 140th St., Cleveland
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Shell Chemical Corp., 50 W. 50th St., N. Y.
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans
Tenn. Prod. & Chem. Corp., Nashville 3, Tenn.
Texas Solvents & Chemicals Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Velsicol Chem. Corp., 330 E. Grand Ave., Chicago
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chemicals Corp., 1719 S. 82 St., Milwaukee, Wisc.
Wolverine Sols. & Chems. Co., 2940 Stafford Ave. S.W., Grand Rapids, Mich.

BERGAMOT OIL (see Essential Oils)

BICARBONATE OF SODA (see Sodium Bicarbonate)

BICHROMATES

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington
Fibor Chem. Corp., Matawan, N. J.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Mutual Chem. Div., 98 Park Ave., N. Y.
Prior Chem. Corp., 420 Lexington Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.

BLEACHING AGENTS (see Chlorine, Peroxide, etc.)

BLEACHING EARTHS and CARBONS (see also Clays)

Chas. B. Crystal Co., 53 Park Pl., N. Y.
Dicalite Div., 612 S. Flower St., Los Angeles, Calif.
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
J. M. Huber Corp., 100 Park Ave., N. Y. 17
Industrial Chem. Sales Div., 230 Park Ave., N. Y.
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y. 14
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Witco Chemical Co., 122 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

BLEACHING EQUIPMENT (see Deodorizing and Bleaching Equipment)

BLEACHING POWDER (Chloride of Lime)

Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Electrochemical Co., Union Ave., Niagara Falls, N. Y.
Olin-Mathieson Chem. Corp., Baltimore
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

BLENDERS (see Mixing Machinery)

BLOCK HOLDERS (see Deodorizing Block Holders)

BLOWERS, ELECTRIC (see Sprayers, Electric)

BLOWERS, FOR POWDERS (see Dusters, for Insecticide Powder)

BLUEING (see Laundry Blue)

BOILER COMPOUNDS

American Colloid Co., Merchandise Mart Plaza, Chicago
Analab Laboratories, 285 Franklin St., Boston 10
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Chemical Service of Baltimore, Howard & West St., Baltimore 30
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clarkson Laboratories, 919 N. 9th St., Phila.
Dow Chem. Co., Midland, Mich.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Haag Laboratories, 140th & Seeley, Blue Island, Ill.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 38th Place, Chicago
Jefferson Chemical Co., Box 303, Houston, Tex.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.

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Granular and Powdered
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BOILER COMPOUNDS (Contd.)

Midland Labs., Dubuque, Iowa
Olin Mathieson Chem. Corp., Baltimore 3
Peck's Products Co., 610 E. Clarence Ave., St. Louis 15
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Permutit Co., 330 W. 42nd St., N. Y.
Rumford Co., Rumford 16, R. I.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Science Industries, 1509 Broadway, St. Louis
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Stewart-Hall Chems. Corp., P. O. Box 66, Mt. Vernon, N. Y.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Trio Chem. Wks., 341 Scholes St., Brooklyn
Ultra Chem. Wks., P. O. Box 1536, Paterson, N. J.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Warsaw Chem. Co., Warsaw, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

BOIS de ROSE OIL (see Essential Oils)

BORAX (and Boric Acid)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Columbia-Southern Chem. Corp., Gateway, Pittsburgh
E. I. du Pont de Nemours & Co., Wilmington
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
A. R. Maas Chemical Co., 4570 Ardine St., South Gato, Calif.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
U. S. Borax & Chem. Corp., 100 Park Ave., N. Y. 17
Welch, Holme & Clark Co., 439 West St., N. Y.
Witco Chemical Co., 122 E. 42 St., N. Y.

BORIC ACID (see Above)

BOTTLE DISPENSERS (see Sprayers and Atomizers, Bottle)

BOTTLE FILLING MACHINERY (see Filling Machinery)

BOTTLE HANDLING EQUIPMENT (Unpacking, Cleaning, Drying, etc.)

Chisholm-Ryder Co. of Pa., Hanover, Pa.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh
Horney & Co., 420 Lexington Ave., N. Y.
Island Equip. Corp., 27-01 Bridge Plaza N., LIC., N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
M. R. M. Co., 191 Berry St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35 St., Chicago (Used)
Packer Mchy. Corp., 109 14th St., Bklyn.
Pneumatic Scale Corp., N. Quincy, Mass.
Standard-Knapp Div., Portland, Conn.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
U. S. Bottlers Mchy. Co., 4019 N. Rockwell S., Chicago

BOTTLE SPRAYERS (see Sprayers, Bottle)

BOTTLE CLEANING MACHINERY (see Cleaning Machinery, Bottle)

BOTTLES AND JARS

Armstrong Cork Co., Lancaster, Pa.
Anchor Hocking Glass Corp., Lancaster, Ohio
Ball Brothers Co., Muncie, Ind.
Brockway Glass Co., Brockway, Pa.
Carr-Lowrey Glass Co., 2201 Kloman St., Baltimore 30
Foster-Forbes Glass Co., Marion, Ind.
Hazel Atlas Glass Div., Wheeling, W. Va.
Knox Glass Co., Knox, Penna.
Maryland Glass Corp., Baltimore, Md.
Owens Illinois Glass Co., Toledo, O.
Wheaton Glass Co., Milville, N. J.

BOTTLES, PLASTIC (Rigid and Squeezable)

American Agile Corp., Bedford, O.
Bradley Container Corp., Maynard, Mass.
Continental Can Co., 100 E. 42nd St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Imco Container Corp., 75th & Cleveland, Kansas City, Mo.
Lawrence Plastic Container Co., 1201 S. Melville, Phila., Pa.
Northwestern Bottle Co., 3144 N. Broadway, St. Louis
Plax Corp., P. O. Box 1019, Hartford 1, Conn.
Royal Mfg. Co., Prescott, Arizona
Wheaton Glass Co., Milville, N. J.

BOX LINERS (see Liners)

BOXES, (Corrugated and Fibre)

Acme Folding Box Co., 149 E. 25 St., N. Y.
Andre Paper Box Co., 1355 Market St., San Francisco
Atlas-Boxmakers, Inc., 5025 W. 65th St., Chicago
Birmingham Paper Co., 2110 S. 5 Ave., Birmingham, Ala.
Calumet Carton Co., Homewood, Ill.
Cambridge Paper Box Co., Cambridge, Mass.
Essex Paper Box Mfg. Co., 281 Astor St., Newark, N. J.
Robert Gair Div. 155 E. 44th St., N. Y.
Gaylord Container Corp., 111 N. 4th St., St. Louis 2
Inland Container Corp., 700 W. Morris St., Indianapolis 6
Walter P. Miller Co., 452 York Ave., Philadelphia
National Folding Box Co., 405 Lexington Ave., N. Y.
National Container Corp., 7 Central Park W., N. Y.
Pacific Paper Box Co., 3615 Broadway Pl., Los Angeles
Union Bag-Camp Paper Corp., 233 Broadway, N. Y.
Stone Container Corp., 4200 W. 42nd Pl., Chgo.

BOXES (Folding)

Ace Carton Co., 5800 W. 51st St., Chicago
Acme Paper Box Co., 800 Tennessee St., San Francisco
American Rondo Corp., Hamden, Conn.
Brooks & Porter, Inc., 304 Hudson St., New York
Berles Carton Co., 86 5th Ave., Paterson, N. J.
Bruce Carton Co., 546 Weakley Ave., Memphis, Tenn.
Robert Gair Div., 155 E. 44th St., N. Y.
Gaylord Container Corp., 111 N. 4th St., St. Louis
Gordon Cartons, Inc., 1629 Warner St., Baltimore
Ohio Boxboard Co., Rittman, O.
Old Dominion Box Co., Lynchburg, Va.
Stone Container Corp., 4200 W. 42nd Pl., Chicago

BOXES (Set-up)

Acme Paper Box Co., 800 Tennessee St., San Francisco
Container Corp. of America, 38 S. Dearborn St., Chicago
F. N. Burt Co., 500 Seneca St., Buffalo, N. Y.
Dennison Mfg. Co., Framingham, Mass.
Robert Gair Div., 155 E. 44th St., N. Y.
Lebanon Paper Box Co., Lebanon, Pa.
Los Angeles Paper Box & Board Mills, 2615 E. 12 St., Los Angeles
Shoup-Owens, Inc., 1100 Adams St., Hoboken, N. J.
Simplex Paper Box Corp., Lancaster, Pa.
Southern Paper Box Co., Little Rock, Ark.
Stone Container Corp., 4200 W. 42nd Pl., Chicago
Wallace Paper Box Corp., 52-07 Flushing Ave., Maspeth, N. Y. C.

BOXES (Fancy Wooden)

Bogert & Hopper, Inc., 101 W. 31st St., N. Y.
Eureka Mfg. Co., Taunton, Mass.
Nussbaum Novelty Co., Berne, Ind.
Pilliod Cabinet Co., Swanton, O.
Specification Packaging Engineering Corp., Burbank, Calif.

BROKERS (Chemicals)

American-British Chemical Supplies, 180 Madison Ave., N. Y. 16
Arnold, Hoffman & Co., Providence, R. I.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
John H. Calo Co., 19 Rector St., N. Y. 6
John A. Chew, Inc., 60 E. 42nd St., N. Y.
Simon Cytron Trading Co., 50 Broad St., N. Y.
Dickerson Co., Drexel Bldg., Phila.
Globe Chem. Co., Murray Rd., Cincinnati
Griffin Chem. Co., 1000 16th St., San Francisco
Otto A. C. Hagen Co., Public Ledger Bldg., Phila.
Chas. L. Huisking & Co., 155 Varick St., N. Y.
C. Lievense, 11 Broadway, N. Y. 4
P. J. Lo Bue Co., 277 Park Ave., N. Y.
Millmaster Chem. Corp. 295 Madison Ave., N. Y.
Leo Pasternak, Inc., 110 William St., N. Y.
Revere Oil & Chemical Co., 23 E. 26th St., N. Y. 10
Riches-Nelson, Inc., 342 Madison Ave., N. Y.
G. S. Robins & Co., 126 Chouteau Ave., St. Louis 2
Robeco Chems., Inc., 23 E. 26th St., N. Y.

BROKERS (CHEMICALS) (Contd.)

Schmitz-Schoenewald-Turner Co., 20 Vesey St., N. Y. 7
Siegel Chemical Co., 1 Hanson Pl., Bklyn.
George Uhe Inc., 76 9th Ave., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y. 14
G. A. Wharry & Co., 125 Broad St., N. Y. 4

BROKERS (Oils and Fats)

Irving R. Boody Co., 120 Wall St., N. Y.
John H. Calo Co., 19 Rector St., N. Y. 6
Simon Cytron Trading Co.. 50 Broad St., N. Y.
Davidson Commission Co., 327 S. La Salle St., Chicago
John W. Hall, 327 S. La Salle St., Chicago
Otto A. C. Hagen Co., Public Ledger Bldg., Phila.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y.
Hentz & Co., 60 Beaver St., N. Y.
Chas. Hollingshead Co., Produce Exchange, N. Y.
E. G. James Co., 316 S. La Salle St., Chicago
C. Lievense, 11 Broadway, N. Y. 4
Marwood Co., 221 N. LaSalle, Chicago
Miller & Co., 2401 Chestnut St., Philadelphia
Rayner & Stonington, Inc., 79 Wall St., N. Y.
Revere Oil & Chemical Co., 23 E. 26th St., N. Y. 10
Roesling, Monroe & Co., 133 Front St., N. Y.
Robeco Chems., Inc., 23 E. 26th St., N. Y.
Sterne & Son Co., Board of Trade Bldg., Chicago
Weaver & Hugi, Inc., Produce Exchange Bldg., N. Y.
Welch, Holme & Clark Co., Inc., 439 West St., N. Y. 14
G. A. Wharry & Co. 125 Broad St., N. Y.
Wilson Brokerage, Inc., Produce Exchange, N. Y.

BULK SOAPS (see Chip Soap, Laundry Soap)

BUTANE

Matheson Co., East Rutherford, N. J.
Phillips Petroleum Co., Bartlesville, Okla.
Cities Service Oil Co., Bartlesville, Okla.

CAJUPUT OIL (see Essential Oils)

CALCIUM CARBONATE (Chalk, Marble Dust, etc.)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
H. J. Baker & Bro., 271 Madison Ave., N. Y.
Calcium Carbonate Co., 222 W. Adams St., Chicago
Harry T. Campbell Sons' Corp., Towson 4, Baltimore
Delore Div., National Lead Co., St. Louis 11
Charles B. Chrystal Co., 53 Park Pl., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Georgia Marble Co., Tate, Ga.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Thompson Weinman & Co., 52 Vanderbilt Ave., N. Y. 17
Charles A. Wagner Co., 4455 N. G., Phila.
Whittaker, Clark & Daniels, Inc., 260 W. Broadway, New York
Witco Chemical Co., 122 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

CALCIUM CHLORIDE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Columbia-Southern Chem. Corp., Pittsburgh
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

CALCIUM HYPOCHLORITE

Columbia-Southern Chem. Corp., Pittsburgh
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Monsanto Chem. Co., St. Louis
Olin Mathieson Chem. Corp., Baltimore 3
Penn. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Jos. Turner & Co., Ridgefield, N. J.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Virginia-Carolina Chem. Corp., Richmond, Va.

CALCIUM STEARATE (see Stearates)

CAMPHOR OIL (see Essential Oils)

CAN FILLING MACHINERY (see Filling Machinery, Cans)

CANDELILLA WAX (see Waxes)

CAN SPOUTS AND NOZZLES

American Can Co., 100 Park Ave., N. Y. 17
Am. Flange & Mfg. Co., 30 Rockefeller Plaza, N. Y.
Eastern Can Co., Keap St. & Kent Ave., Bklyn.
George D. Ellis & Son, American & Luzerne St., Phila. 40
Rieke Metal Products Corp., Auburn, Indiana
Seal Spout Corp., 230 Sheffield Ave., Mountainside, N. J.
Standard Containers, Inc., Montclair, N. J.
Vulcan Containers Inc., Bellwood, Ill.
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

CANS (Fibre or Paper)

American Can Co., 100 Park Ave., N. Y.
Cin-Made Corp., 800 E. Ross Ave., Cincinnati
Cleveland Container Co., 6201 Barberton Ave., Cleveland
Continental Can Co., 100 E. 42nd St., N. Y.
Cross Paper Products Corp., 4377 Bronx Blvd., N. Y. 66
Federal Fibre Corp., 3704 10th St., Long Island City, N. Y. 1
Harcord Mfg. Co., 125 Monitor St., Jersey City, N. J.
National Paper Can Co., Cudahy, Wis.
R. C. Can Co., 9430 Page Ave., St. Louis
Sealright Co., Fulton, N. Y.
Stone Container Corp., 4200 W. 42nd Pl., Chgo.
Sutherland Paper Co., Kalamazoo, Mich.

CANS (Sifter Top)

American Can Co., 100 Park Ave., N. Y. 17
Burdick & Son, 72 Hamilton St., Albany, N. Y.
Cleveland Container Co., 6201 Barberton Ave., Cleveland
Cin-Made Corp., 880 E. Ross Ave., Cincinnati
Continental Can Co., Inc., 100 E. 42nd St., N. Y.
Cross Paper Products Corp., 4377 Bronx Blvd., N. Y., 66
Eastern Can Co., Keap St. & Kent Ave., Bklyn.
Harcord Mfg. Co. 125 Monitor St., Jersey City, N. J.
National Can Corp., 3217 W. 47th Pl., Chicago
R. C. Can Co., 9430 Page Ave., St. Louis
Sefton Fibre Can Co., 3275 Big Bend Blvd., St. Louis
Stone Container Corp., 4200 W. 42nd Pl., Chgo.

CANS (Metal)

American Can Co., 100 Park Ave., N. Y.
Burdick & Son, 72 Hamilton St., Albany 1, N. Y.
Central Can Co., 2415 W. 9th St., Chicago
J. L. Clark Mfg. Co. Rockford, Ill.
Continental Can Co., Inc., 100 E. 42nd St., N. Y.
Crown Cork & Seal Co., 9300 Ashton Rd., Philadelphia
Eastern Can Co., Keap St. & Kent Ave., Brooklyn 11
George D. Ellis & Son, American & Luzerne St., Phila. 40
Fein's Tin Can Co., Bush Terminal, Brooklyn
Heekin Can Co., 429 New St., Cincinnati 2
Inland Steel Container Co., 6532 S. Menard Ave., Chicago 11
National Can Corp., 3217 W. 47th Pl., Chicago 32
Olive Can Co., 450 N. Leavit St., Chicago
St. Louis Can Co., 904 S. 14th St., St. Louis
Standard Container, Inc., Montclair, N. J.
Stern Can Co., 71 Locust St., Boston 25
Vulcan Containers Ltd., Box 284, Toronto, Can.
Vulcan Containers Inc., Bellwood, Ill.
Vulcan Steel Container Co., 3315 N. 35th Ave., Birmingham, Ala.

CAPPING MACHINERY

Anchor Hocking Glass Corp., Lancaster, O.
Bell Machine Co., 65 Jackson Dr., Oshkosh, Wisc.
Builders Sheet Metal Wks., 108 Wooster St., N. Y.
Consolidated Packaging Machinery Corp., 1400 West Ave., Buffalo
Crown Cork & Seal Co., 9300 Ashton Rd., Phila. 36
Ertel Engineering Corp., West Front St., Kingston, N. Y.
Filler Machine Co., 10 Penn Ave., Phila. 11
Filpaco Industries, 2464 S. Michigan Ave., Chicago
R. G. Haskins Co., 2661 W. Harrison St., Chicago
Hornney & Co., 420 Lexington Ave., N. Y.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago 22, (used)

M. R. M. Co., 191 Berry St., Brooklyn
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Pneumatic Scale Corp., Quincy 71, Mass.
Resina Automatic Mchy. Co. 572 Smith St., Brooklyn
Triangle Package Machy. Co., 6633 W. Diversey Blvd., Chicago 51
Tite-Cap Machine Co., 57 Rose St., N. Y. 7
U. S. Bottlers Mchy. Co., 4015 N. Rockwell S., Chicago

CAPS (Molded)

American Can Co., 100 Park Ave., N. Y. 17
Anchor Hocking Glass Corp., Lancaster, Ohio
Armstrong Cork Co., Lancaster, Pa.
Bernardin Bottle Cap Co., 2201 W. Maryland St., Evansville, Ind.
Clayton Corp., 4205 Forest Park Blvd., St. Louis 8
General Plastics, Inc., N. Tonawanda, N. Y.
Owens-Illinois Glass Co., Toledo, Ohio
Scott Plastics, 410 Windsor St., Hartford, Conn.
Standard Cap & Molding Co., 307 S. Eaton St., Baltimore
Wheaton Glass Co., Millville, N. J.
Wheeling Stamping Co., 2116 Water St., Wheeling, W. Va.

CAPS (Metal)

Aluminum Co. of America, Gulf Bldg., Pittsburgh
American Can Co., 100 Park Avenue, N. Y. 17
Anchor Hocking Glass Corp., Lancaster, Ohio
Armstrong Cork Co., Lancaster, Pa.
Ball Brothers Co., Muncie, Ind.
Bernardin Bottle Cap Co., 2201 W. Maryland St., Evansville, Ind.
Closure Service Co., Toledo, Ohio
Continental Can Co., 100 E. 42nd St., N. Y.
Crown Cork & Seal Co., Baltimore, Md.
National Seal Co., 14th Ave. & 37th St., Brooklyn
Owens-Illinois Glass Co., Toledo, Ohio
Phoenix Metal Cap Co., 2444 W. 16th St., Chicago
Sterling Seal Co., 316 W. 16th St., Erie, Pa.
West Penn Mfg. & Supply Corp., Brackenridge, Pa.

CARBOLIC ACID (see Phenol)

CARBON for bleaching oils, glycerine, etc., (see Decolorizing Carbons)

CARBON TETRACHLORIDE
(see also Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, Ohio
J. T. Baker Chemical Co., Phillipsburg, N. J.
Buffalo Solvents & Chemicals Corp., Box 73 Station B, Buffalo 7, N. Y.
Carbide & Carbon Chemicals, 30 E. 42nd St., N. Y. 17
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12, Ill.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dixie Solvents & Chems. Co., Dixie Highway and Appleton Lane, Louisville, Ky.
Dow Chemical Co., Midland, Mich.
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22, Ind.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans 18, La.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Virginia-Carolina Chem. Corp., Richmond, Va.
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11, Michigan
Westvaco Chlor-Alkali Div., Food Mach. & Chem. Corp., 161 E. 42nd St., N. Y.
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee 14, Wis.
Wolverine Solvents & Chemical Co., 2940 Stafford Ave., SW, Grand Rapids, Mich.

CARBOXYMETHYCELLULOSE (CMC)

Antara Chemicals, Div. of General Aniline & Film Corp., 435 Hudson St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

CARNAUBA WAX (see Waxes)

CARTON LINING MACHINES (see Lining Machinery)

CARTON SEALING MACHINERY (see Sealing Machinery)

CARTONING MACHINERY

Battle Creek Packaging Machines, Inc., Battle Creek, Mich.
Bell Machine Co., 65 Jackson Dr., Oshkosh, Wisc.
Chisholm-Ryder Co. of Pa., Hanover, Pa.
Clybourn Machine Corp., 6479 N. Avondale Ave., Chicago 31
J. L. Ferguson Co., Joliet, Ill.
Hornney & Co., 420 Lexington Ave., N. Y.
R. A. Jones & Co., Cincinnati, Ohio
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 3000 St. Charles Rd., Bellwood, Ill.
Standard-Knapp Div., Portland, Conn.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 6633 W. Diversey Blvd., Chicago 51
Weigh Right Automatic Scale Co., 404 Grant Ave., Joliet, Ill.

CARTONS (see Boxes)

CASE LOADING MACHINERY

Battle Creek Packaging Machines, Inc., Battle Creek, Mich.
Chisholm-Ryder Co., Hanover, Penna.
J. L. Ferguson Co., Joliet, Ill.
R. A. Jones & Co., Cincinnati
Hornney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Mach. Co., 919 Martin St., Cincinnati
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., N. Quincy, Mass.
Standard-Knapp Div. of Emhart Mfg. Co., Portland, Conn.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.

CASE SEALING MACHINERY (see Sealing Machinery)

CASEIN

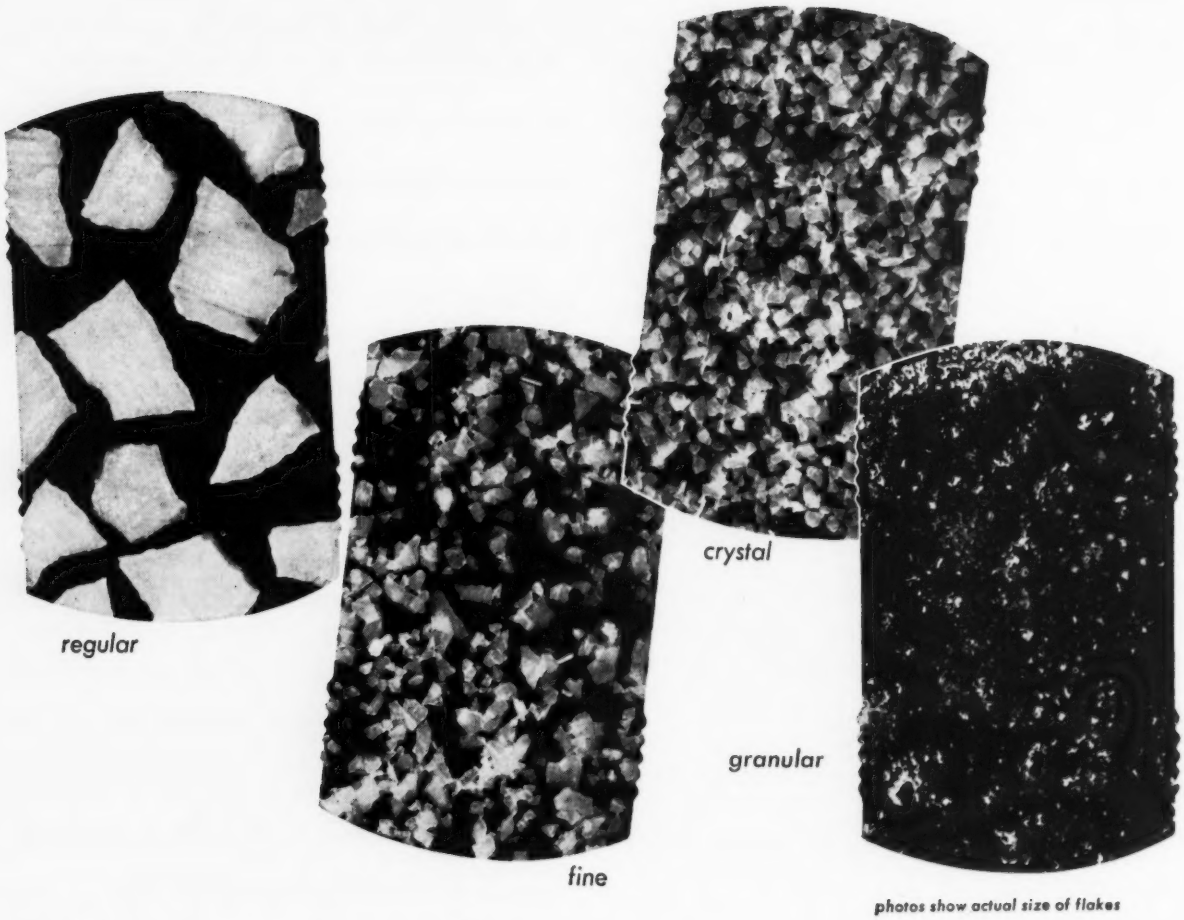
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Borden Co., 350 Madison Ave., N. Y.
Wm. Diehl & Co., 330 W. 42nd St., N. Y. 18
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Land-O-Lakes Creameries, Minneapolis
Swift & Co., Chicago 9
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.

CASES (Corrugated) (see Boxes)

CASSIA OIL (see Essential Oils)

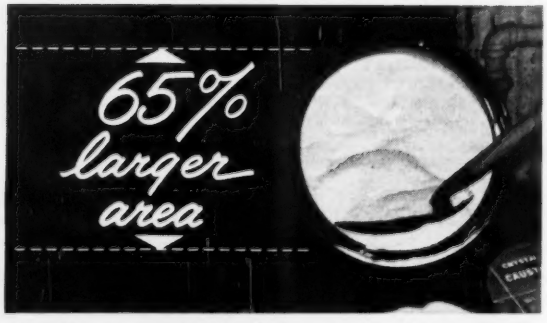
CASTILE SOAP, BAR

Armour & Co., 1355 W. 31st St., Chicago
Brunswick Soap Co., 240 Plymouth St., Brooklyn
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Haskins Bros. & Co., Omaha
Hewitt Soap Co., Dayon, O.
Kranich Soap Co., 54 Richards St., Brooklyn
Lockwood-Brackett Co., Waltham Station, Boston
Mem Co., 67 Irving Pl., N. Y. 3
Original Bradford Soap Wks., West Warwick, R. I.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati 1
Schmidt Soap Products, 236 W. North Ave., Chicago
Scientific Cosmetics, Inc., 242 W. 27th St., N.Y.C.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago



photos show actual size of flakes

Flake caustic soda: pick the size that's right for YOU



ASK FOR THIS NEW DRUM when you order. Larger opening is a full 18 inches across—65% more area than conventional 14-inch drum—for easier pouring, scooping, shoveling. Get practically all the advantages of a full-open-head drum—without paying premium price.

Choosing the right size caustic soda flake will help keep your product at its uniform best. With these four Hooker flake sizes to choose from, you're sure of getting one or more sizes exactly right for you.

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Drop us a note and we'll send you samples and technical data to help you determine which of these Hooker flake sizes is your best buy.

If you use less than carload lots, ask your Hooker jobber to stock the sizes you need. (If you are not familiar with the Hooker jobber in your area, we'll be glad to send you his address.)

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HOOKER CHEMICALS PLASTICS

CASTILE SOAP, LIQUID

Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Analab Laboratories, 285 Franklin St., Boston 10
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McQuire Inc., South St., Holbrook, Mass.
Baums Castorine Co., 200 Matthew St., Rome, N. Y.
Chemical Service of Baltimore, Howard & West Sts., Baltimore 30
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Crystal Soap & Chem. Co., 6300 State Rd., Phila. 35
Davies-Young Soap Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Hewitt Soap Co., Dayton, O.
Higley Chem. Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kranich Soap Co., 54 Richards St., Brooklyn
Midland Laboratories, 210 Jones St., Dubuque, Iowa
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Trio Chem. Wks., 341 Scholes St., Brooklyn
J. A. Tumbler Labs., 423 Hanover St., Baltimore
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
Uncle Sam Chem. Co., 575 W. 131st St., N. Y.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Wolf Soap Co., 254 Sheffield Ave., Bklyn.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

CASTOR OIL
(see also Dealers)

Archer-Daniels-Midland Co., Minneapolis
Baker Castor Oil Co., 120 Broadway, N. Y.
Brazilian Industrial Oils, Inc., 75 West St., N. Y. 6
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
George Degen & Co., 111 Broadway, N. Y.
Otto A. C. Hagen Co., 929 Public Ledger Bldg., Phila.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 177 Battery Place, N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Swift & Co., Chicago
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.

CASTOR OIL, Dehydrated

Archer-Daniels-Midland Co., Minneapolis
Baker Castor Oil Co., 120 Broadway, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.

CASTOR OIL FATTY ACIDS

Acme Hardesty Co., 60 E. 42nd St., N. Y.
Archer-Daniels-Midland Co., Minneapolis, Minn.
Baker Castor Oil Co., 120 Broadway, N. Y. 5
Emery Industries, 4200 Carew Tower, Cincinnati
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville, N. J.
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.

CASTOR OIL, HYDROGENATED (see Hydrogenated Oils)

Archer-Daniels-Midland Co. Minneapolis
Baker Castor Oil Co., 120 Broadway, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St. San Francisco
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.

CATALYTIC AGENTS

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chemical Co., Phillipsburg, N. J.
Davison Chemical Corp., Baltimore 3, Md.
Fiber Chem. Corp., Matawan, N. J.
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 20
Harshaw Chemical Co., 1945 E. 97 St., Cleveland 6
Lucidol Div., Wallace & Tiernan, Inc., Buffalo 5, N. Y.
Olin Mathieson Chem. Corp., Baltimore
Oronite Chem. Co., 200 Bush St., San Francisco, Calif.
Raney Catalyst Co., Hamilton National Bank Bldg., Chattanooga, Tenn.

CATTLE DIPS AND SPRAYS

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Barger Chems., Inc., Norwalk, Conn.
California Spray-Chemical Corp., Richmond, Calif.
Carbide & Carbon Chemicals, 30 E. 42nd St., N. Y. 17
Chase Products Co., 1816 St. Charles Rd., Maywood, Ill.
Chemical Service of Baltimore, Howard & West St., Baltimore
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Chipman Chem. Co., Bound Brook, N. J.
Davies-Young Soap Co., Dayton, O.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Eagle Soap Co., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 140th & Seeley, Blue Island, Ill.
Higley Chem. Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Hunt Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Lorenz Chem. Co., 135 N. 32nd Ave., Omaha
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis, Minn.
Michigan Chem. Corp., St. Louis, Mich.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
Olin-Mathieson Chem. Corp., Baltimore
Peck's Prod. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Rex Research Corp., Toledo
Shell Chemical Corp., 50 W. 50th St., N. Y. 19
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Stauffer Chemical Co., 380 Madison Ave., N. Y.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Brooklyn 6
Uncle Sam Chem. Co., 575 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Velsicol Corp., 330 E. Grand Ave., Chicago
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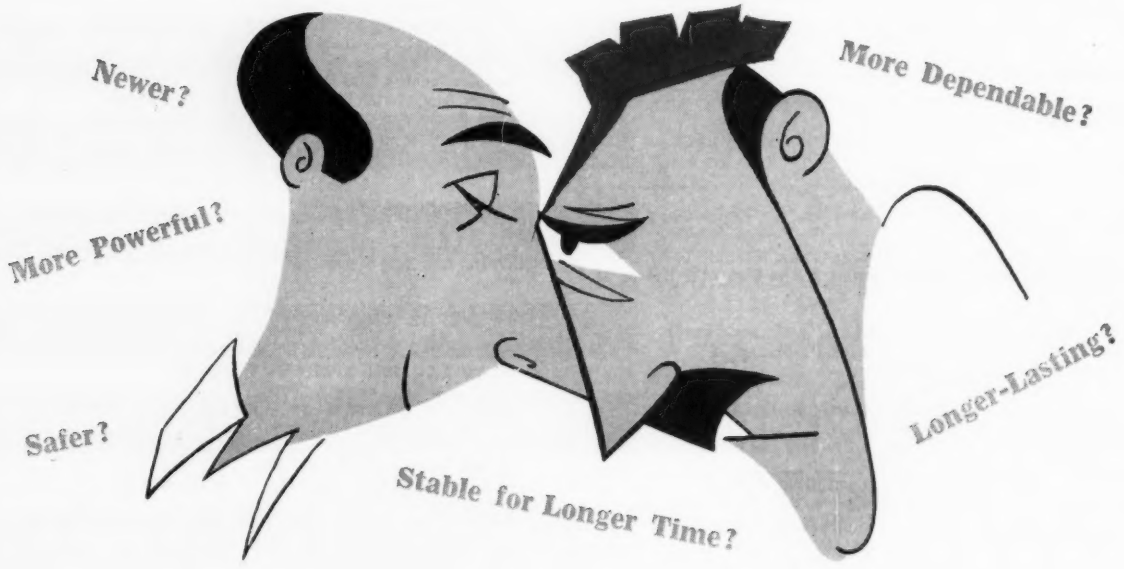

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Gaylord Chem. Co., 701 Woodsweather Rd., Kansas City
James Good, Inc., 2107 Susquehanna Ave., Phila.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
Help, Inc., 122 W. Kinzie St., Chicago
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hunnewell Soap Co., 114 W. 2nd St., Cincinnati
Hunt Mfg. Co., Lisbon Rd., Cleveland
Hysan Prods. Co., 936 W. 38th Place, Chicago
J. Chemical Works Co., 602 W. 37th St., N. Y. 18
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Klenzade Prods., Inc., Beloit, Wisc.
Klix Chem. Co., 551 Railroad Ave., South San Francisco, Calif.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Los Angeles Soap Co., Los Angeles, Calif.
M. & H. Laboratories, 2703 Archer Ave., Chicago

CLEANING COMPOUNDS, DRY (Contd.)

M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Iowa
Nat'l Milling & Chemical Co., 4601 Nixon St., Phila. 27
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Olin-Mathieson Chem. Corp., Baltimore 3
Oronite Chem. Co., 200 Bush St., San Francisco
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Peck's Prod. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Philadelphia
Philadelphia Quartz Co., Public Ledger Bldg., Independence Sq., Phila. 6
Pilot California Co., 215 W. 7th St., Los Angeles 14
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Distributing Co., Cincinnati
Puritan Chem. Co., Atlanta, Ga.
Rex-Cleanwall Corp., 238 S. Murphy Ave., Brazil, Ind.
Rumford Chem. Wks., Rumford 16, R. I.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Science Industries, 1509 N. Broadway, St. Louis
Skotch Products Co., 2710 Detroit Ave., Cleveland
E. B. Snyder Laboratories, 2137 E. Harold St., Phila. 24
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden 1, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Stevens Soap Corp., 287 Conover St., Bklyn.
Sugar Beet Prods. Co., Saginaw, Mich.
Swift & Co., Chicago 9
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Warsaw Chem. Co., Warsaw, Ind.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Mineral Prods. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y. 17
Wilco Company, 4425 Bandini Blvd., Los Angeles 23
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.
Zeen Chemical Co., 2000 Elm St., Cleveland 13

CLEANING FLUIDS (Spotting Fluids)

American Alcolac Corp., 3440 Fairfield Rd., Baltimore 26
Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Ampion Corp., 4-88—47th Ave., Long Island City, N. Y.
A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
Amsco Solvents & Chems. Co., 4617 Reading Rd., Cincinnati
Anderson-Prichard Oil Corp., 1000 Liberty Bank Bldg., Okla. City, Okla.
Armour & Co., 1355 W. 31st St., Chicago
Atlantic Refining Co., 260 South Broad St., Phila.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Boston Chem. Industries, 64 E. Brookline St., Boston 18
Britex Corp., 17-18 Lewis Wharf, Boston 10
Buckingham Wax Co., 51-03 Van Dam St., LIC, N. Y.
Buffalo Solvents & Chem. Corp., P. O. #73, Sta. B, Buffalo, N. Y.
Cadet Laboratories, 10 Clarence St., Worcester 5, Mass.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Davies-Young Soap Co., Dayton, O.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Co., Huntington, Ind.
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Higley Chem. Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, Malden, Mass.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Pennsylvania Refining Co., Butler Pa.
Products Packaging, Inc., 6400 Herman Ave., Cleveland 2
Sanders Chem. Co., 2205 N. American St., Phila. 33
Science Industries, 1509 N. Broadway, St. Louis
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y. 6
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden 1, N. J.
Treplow Products, 59 Camden St., Paterson, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
Wolverine Solvents & Chems. Co., 1500 Century Ave. SW, Grand Rapids, Mich.
Zeen Chemical Co., 2000 Elm St., Cleveland 13

CLEANING MACHINERY (for Bottles and Jars)

Alsop Engineering Corp., Milldale, Conn.
Arenco Mach. Co., 25 W. 43rd St., N. Y. 18
Chisholm-Ryder Co., Hanover, Penna.
Consolidated Package Machy. Corp., 1400 West Ave., Buffalo, N. Y.
Hope Machine Co., 9400 State Rd., Phila.
Horney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Mach. Co., 919 Martin St., Cincinnati
M.R.M. Co., 191 Berry St., Bklyn. 11
Packer Mach. Corp., 109 14th St., Bklyn.
Pneumatic Scale Corp., North Quincy, Mass.
F. J. Stokes Mach. Co., 5918 Tabor Rd., Phila.
U. S. Bottlers Machy. Co., 4019 N. Rockwell St., Chicago

CLIPS (for collapsible Tubes) (see also Tubes, Collapsible)

Arthur Colton Co., 3400 E. Lafayette Ave., Detroit
Standard Spec. & Tube Co., New Brighton, Pa.

CLOSURE LINERS

AP Applicator Co., Pleasantville, N. Y.
Aluminum Prods. Corp., Fulton, N. Y.
American Cork Specialties Co., 140 Junius St., Bklyn.
Armstrong Cork Co., Lancaster, Pa.
Bernardin Bottle Cap Co., 2201 W. Maryland St., Evansville, Ind.
Crown Cork & Seal Co., Baltimore
Cushion Pack, Inc., Hawthorne, N. J.
General Felt Prods., Div. Standard Packaging Corp., 68 35th St., Bklyn.
Irvington Varnish & Insulator Co., Irvington, N. J.
Reynolds Metals Co., Louisville, Ky.

CLOSURES, Metal (see also Can Spouts; also Caps)

Aluminum Co. of America, Pittsburgh
American Can Co., 100 Park Ave., N. Y. 17
American Cork Specialties Co., 140 Junius St., Bklyn.
Anchor Hocking Glass Corp., Lancaster, O.
American Flange & Mfg. Co., 30 Rockefeller Plaza, N. Y.
Armstrong Cork Co., Lancaster, Pa.
Art Tube Co., 500 Lyons Ave., Irvington, N. J.
Ball Brothers Co., 1509 S. Macedonia, Muncie, Ind.
Bernardin Bottle Cap Co., 2201 W. Maryland St., Evansville, Ind.
Continental Can Co., 100 E. 42nd St., N. Y.
Crown Cork & Seal Co., Baltimore
Dispensers, Inc., 947 E. 62nd St., Los Angeles
Hydrawlik Co., 131 E. 1st Ave., Roselle, N. J.
National Paper Can & Tube Co., Milwaukee
Owens-Illinois Glass Co., Toledo, O.
Rieke Metals Prods. Co., Auburn, Ind.
Seal-Spout Corp., 230 Sheffield St., Mountainside, N. J.
Trio Metal Cap Co., 317 N. San Francisco Ave., Chicago
West Penn Mfg. & Supply Corp., Brackenridge, Pa.

CLOSURES, MOLDED (Plastic)

American Cork Specialties Co., 140 Junius St., Bklyn.
Anchor Hocking Glass Corp., Lancaster, O.
Bernardin Bottle Cap Co., 2201 W. Maryland St., Evansville, Ind.
Buckeye Molding Co., Miamisburg, O.
Joseph Davis Plastics Co., Arlington, N. J.
Federal Tool Corp., 3600 W. Pratt Blvd., Chicago
Mack Molding Co., Wayne, N. J.
Owens-Illinois Glass Co., Toledo, O.
Pennsylvania Glass Prods. Co., Pittsburgh
Plax Corp., West Hartford, Conn.
Scott Plastics, 410 Windsor, Hartford, Conn.
Wheaton Glass Co., Millville, N. J.
Wheeling Stamping Co., 2116 Water St., Wheeling, W. Va.
A. H. Wirz, Inc., Chester, Pa.

COAL TAR DISINFECTANTS (see Disinfectants, Coal Tar)

COAL TAR RAW MATERIALS (Cresols, Creosote Oil, Cresylic Acid, etc.)

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Baird & McGuire, Inc., Holbrook, Mass.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Concord Chem. Co., 205 S. 2nd St., Camden 1, N. J.
James Huggins & Son, Malden, Mass.
Koppers Co., Pittsburgh 19
Monsanto Chemical Co., St. Louis
Neville Chemical Co., Pittsburgh 25
Penna. Industrial Chem. Corp., Clairton, Pa.
Reilly Tar & Chemical Co., Merchant Bank Bldg., Indianapolis
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Standard Naphthalene Prods. Co., S. Kearny, N. J.
U. S. Steel Corp., Pittsburgh, Pa.
James Varley & Sons, 1200 Switzer Ave., St. Louis

COCONUT OIL (see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis 2
Balfour, Guthrie & Co., 67 Wall St., N. Y.
Capitol City Products Co., P. O. Box 569, Columbus, O.
T. G. Cooper & Co., Cedar & Venango Sts., Phila. 34
Geo. Degen & Co., 111 Broadway, N. Y.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Foremost Food & Chem. Co., El Dorado Div., Oakland, Calif.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Pacific Veg. Oil Corp., 62 Townsend St., San Francisco
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

COCONUT OIL FATTY ACIDS

Acme-Hardesty Co., 60 W. 42nd St., N. Y. C.
Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago 9
Capitol City Prods. Co., 525 W. 1st St., Columbus, O.
Concord Chemical Co., 205 S. 2nd St., Camden 1, N. J.
Darling & Co., 4201 S. Ashland Ave., Chicago 9
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emery Industries, Carew Tower, Cincinnati 2
Foremost Food & Chem. Co., El Dorado Div., Oakland, Calif.
General Mills, Chemical Div., Kankakee, Ill.
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.
Swift & Co., Industrial Oil Dept., Hammond Ind.
Welch, Holme & Clark Co., 439 West St., N. Y. 14
Woburn Chem. Co., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Great Neck, N. Y.

COCONUT OIL SOAPS (see Hard Water Soaps)

COCONUT OIL SHAMPOO BASE (see Shampoo Base and Potash Soaps)

COCONUT OIL POWDERED SOAPS (see Soaps, Powdered)

CODING MACHINES (see Marking Machines)

COLLOID MILLS (Homogenizing Equipment)

J. H. Day Co., 4932 Beech St., Cincinnati
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Gifford-Wood Co., 420 Lexington Ave., NYC
Kinetic Dispersion Corp., 95 Botsford Pl., Buffalo, N. Y.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Manton-Gaulin Mfg. Co., Everett, Mass.
Morehouse-Cowles, Inc., 1150 San Fernando Rd., Los Angeles
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Troy Engine & Machine Co., Troy, Penna.

COLORS (Dyes for soaps, sprays, sweeping compounds, etc.)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Ansbacher-Siegle Corp., Rosebank, Staten Island, N. Y.
Chas. B. Chrystal Co., 53 Park Pl., N. Y. 7
E. I. du Pont de Nemours & Co., Wilmington, Del.
Dye Specialties, Inc., 26 Journal Sq., Jersey City 6, N. J.

COLORS (DYES) (Contd.)

Fezandie & Sperrle, 205 Fulton St., N. Y.
Geigy Chemical Corp., Ardsley, N. Y.
General Dyestuff Co., Div. General Aniline & Film Corp., 435 Hudson St., N. Y.
B. F. Goodrich Chem. Co., Haledon, N. J.
Hilton-Davis Chem. Co., 2235 Langdon Farm Rd., Cincinnati
L&R Organic Prods. Co., 50 White St., N. Y. 13
Leeben Color & Chem. Co., 103 Lafayette St., N. Y. 13
H. Kohnstamm & Co., 91 Park Pl., N. Y.
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Pylam Products Co., 799 Greenwich St., N. Y.
Sandoz Chem. Wks., 61 Van Dam St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.

COLORS, CERTIFIED

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Ansbacher-Siegle Corp., Rosebank, Staten Island, N. Y.
Fezandie & Sperrle, 205 Fulton St., New York
Geigy Chemical Corp., Ardsley, N. Y.
Hilton-Davis Chemical Co., 2235 Langdon Farm Rd., Cincinnati 12
H. Kohnstamm & Co., 91 Park Place, New York
Leeben Color & Chem. Co., 103 Lafayette St., N. Y. 13
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Pylam Products Co., 799 Greenwich St., New York
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.

COMPLEXING AGENTS (see Sequestering Agents)

CONSULTANTS (Chemists, Engineers, Etc.)

Carl N. Anderson, 52 Vanderbilt Ave., N. Y. 17
Bowen Engineering, Inc., 10 Station Rd., North Branch, N. J.
Alvin J. Cox, 1118 Emerson St., Palo Alto Calif.
Robert A. Foresman, Jr., 1690 Margaret St., Phila. 24
Hip Top Research Institute, 925 Wm. H. Taft Rd., Cincinnati
Hudson Laboratories, 117 W. 13th St., N. Y. 11
Industrial Bio-Test Labs., 1810 Frontage Rd., Northbrook, Ill.
Kroner Laboratories, Inc., 275 Water St., N. Y. C.
Leberco Labs., 123 Hawthorne St., Roselle Park, N. J.
Lodes Aerosol Consultants, Inc., 730 5th Ave., N. Y.
W. W. Lewers, 207 Norman Ave., Brooklyn 22
J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Molnar Laboratories, 211 E. 19th St., N. Y.
Donald Price, 123 E. 92nd St., N. Y. 28
Reed Research Corp., Mill St., Huntington, Shelton, Conn.
Seil, Putt & Rusby, 16 E. 34th St., N. Y.
Foster D. Snell, 29 W. 15th St., N. Y.
Stillwell & Gladding, 130 Cedar St., N. Y.
Testfabrics, P. O. Box 567, Plainfield, N. J.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

CONTAINERS, PLASTIC (see Bottles, Plastic)

CONTAINERS, STEEL SHIPPING (See Drums, Steel or Pails, Metal)

CONTINUOUS PROCESS SOAP PLANTS

Emery Industries, Carew Tower, Cincinnati, O.
G. Mazzoni, Busto Arsizio, Italy
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Refining Unincorporated, 70 W. 40th St., N. Y. 18
Sharples Corp., 23rd & Westmoreland Sts., Phila. 40
Foster D. Snell, 29 W. 15th St., N. Y. 11
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chgo.

CONTRACT PACKAGING (see Packaging for the Trade)

CONVEYORS (Bottles, Bags, Cans, Packages, etc.)

Alsop Engineering Corp., Milldale, Conn.
Automatic Scale Co., Joliet, Ill.
Chisholm-Ryder Co. of Pa., Hanover, Pa.
Crown Cork & Seal Co., Baltimore
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Economic Machy. Co., 60 Fremont St., Worcester, Mass.
Frazier & Son, 20 Industrial West, Clifton, N. J.
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh
Houchin Machinery Co., Hawthorne, N. J.
Island Equip. Corp., 27-01 Bridge Plaza N., LIC, N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati

Link-Belt Co., 910 S. Michigan, Chicago
Loeb Equipment Supply Co., 824 W. Superior St., Chicago (Used)
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Franklin P. Miller & Son, 36 Meadow St., East Orange, N. J.
M. R. M. Co., 191 Berry St., Bklyn.
Newman Tallow & Soap Machy. Co., 1057 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Quincy 71, Mass.
Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Phila. 20
Rapids Machinery Co., Marion, Iowa
Read Standard Corp., York, Pa.
Sprout Waldron & Co., Muncy, Pa.
Standard Conveyor Co., N. St. Paul, Minn.
Standard-Knapp, Div. Emhart Mfg. Co., Portland, Conn.
Stephens-Adamson Mfg. Co., Aurora, Ill.
F. J. Stokes Machine Co., Tabor Rd., Phila., Pa.
Tite-Cap Machine Co., 57 Rose St., N. Y. 7
Triangle Packaging Machy. Co., 6633 W. Diversey Blvd., Chicago
U. S. Bottlers Machy Co., 4019 N. Rockwell St., Chicago
Weigh Right Automatic Scale Co., Joliet, Ill.
Young Machy. Co., Muncy, Pa.

COPOLYMERS (see Polymer Solutions)

COPPER NAPHTHENATE

Advance Solvents & Chem. Corp., 245 5th Ave., N. Y.
Cuprinol Div.—Darworth, Inc., Simsbury, Conn.
General Petroleum Corp. of Calif., 108 W. 2nd St., Los Angeles
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Koppers Co., Chamber of Commerce Bldg., Pittsburgh 19
Naftone, Inc., 515 Madison Ave., N. Y. 22
Oronite Chemical Co., 200 Bush St., San Francisco
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
Texas Solvents & Chem. Co., 8501 Market St., Houston

COPPER SULFATE (Blue Vitriol)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
W. R. E. Andrews Sales, Inc., 1505 Race St., Philadelphia 2, Pa.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Faesy & Besthoff, Inc., 325 Spring St. N. Y.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Irvington Smelting & Refining Co., 374 Nye Ave., Irvington, N. J.
Phelps Dodge Refining Corp., 40 Wall St., N. Y. 5
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Tennessee Corp., Atlanta, Ga.
Jos. Turner & Co., Ridgefield, N. J.

CORKING MACHINERY

Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh
Horney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Machine Co., 919 Martin St., Cincinnati
Newman Tallow & Soap Mchy. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., Quincy 71, Mass.
Tite-Cap Machine Co., 59 Rose St., N. Y.
U. S. Bottlers Mchy. Co., 4019 N. Rockwell St., Chicago

CORKS

Armstrong Cork Co., Lancaster, Pa.
Continental Can Co., 100 E. 42nd St., N. Y. 17
Dodge Cork Co., Lancaster, Pa.

CORN OIL (see also Brokers and Dealers)

American Maize Prods. Co., 250 Park Ave., N. Y.
Archer-Daniels-Midland Co., Minneapolis 2
Balfour, Guthrie & Co., Ltd., 67 Wall St., N. Y.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Corn Products Sales Co., 15 E. 26th St., N. Y. 10
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
National Starch Products, 270 Madison Ave., N. Y.
Pierce Oil Prods. Co., East Rochester, N. Y.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.

CORN OIL FATTY ACIDS

Archer-Daniels-Midland Co., Minneapolis 2, Minn.
Armour & Co., 1355 W. 31st St., Chicago
Capital City Prods. Co., 525 W. 1st St., Columbus, O.

CORN OIL FATTY ACIDS (Contd.)

Corn Prods. Sales Corp., 17 Battery Pl., N. Y. 4
Emery Industries, Carew Tower, Cincinnati
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.
A. E. Staley Mfg. Co., Decatur, Ill.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Joseph Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wilson-Martin Div., Wilson & Co., Snyder Ave. & Swanson St., Phila.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

CORN STARCH (see Starch)

COSMETICS (Private Brand Compacts, Lipsticks, Etc.)

Avon Products, Inc., Suffern, N. Y.
Analab Labs., 285 Franklin St., Boston 10
G. Barr & Co., 3601 S. Racine Ave., Chicago
Curley Co., 1432 N. Randolph St., Phila.
Richard Gesell, Inc., 200 W. Houston St., N. Y.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
Pharmco, Inc., 22292 Lakeland Blvd., Cleveland 23
Scientific Cosmetics, 242 W. 27th St., N. Y. C.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

COTTONSEED FATTY ACIDS (and Soapstock)

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
Capitol City Prods. Co., 525 W. 1st Ave., Columbus 16, O.
Concord Chemical Co., 205 S. 2nd St., Camden 1, N. J.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
General Mills, Chemical Div., Kankakee, Ill.
A. Gross & Co., 295 Madison Ave., N. Y.
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.
Portsmouth Cotton Oil Refining Co., Portsmouth, Va.
J. H. Redding, Inc., 17 Battery Place, N. Y.
Southern Cotton Oil Co., 25 Broad St., N. Y.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wilson-Martin Div., Swanson St., Phila.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Zeigler & Co., Box 348, Great Neck, N. Y.

COTTONSEED OIL (see also Brokers and Dealers)

E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
Portsmouth Cotton Oil Refining Corp., Portsmouth, Va.
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
C. F. Simonin's Sons, Phila.
Southern Cotton Oil Co., 25 Broad St., N. Y.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

COUMARIN (see also Aromatic Chemicals)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
Felton Chemical Co., 603 Johnson Ave., Brooklyn
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Bros., 76 Ninth Ave., N. Y. 11
Givaudan-Delawanna, 330 W. 42nd St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y. 13
Lautier Fils, 321 5th Ave., N. Y. 16
Magnus, Mabee & Reynard, 16 Desbrosses Street, N. Y.
Maywood Chemical Wks., Maywood, N. J.
Monsanto Chemical Co., St. Louis
Neumann, Buslee & Wolfe, Inc., 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y. 8
Polak & Schwarz, 667 Washington, N. Y.
Roubechez, Inc., 8 E. 12th St., N. Y.
Rhodia, Inc., 60 E. 56th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Sterwin Chemicals, Inc., 1450 Broadway, N. Y.
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

CREOSOTE (see Coal Tar Raw Materials)

CRESOL COMPOUND, U.S.P. and Technical (see Disinfectants, Coal Tar)

CRESOLS

Baird & McGuire, Inc., Holbrook, Mass.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Coal Tar Chemicals Corp., 420 Lexington Ave., N. Y.
Concord Chem. Co., 205 S. 2nd St., Camden 1, N. J.
James Huggins & Son, Malden, Mass.
Koppers Co., Pittsburgh 19
Neville Chemical Co., Pittsburgh 25
Penna. Industrial Chem. Corp., Clairton, Pa.
Riches-Nelson, Inc., 342 Madison Ave., N. Y.
Reilly Tar & Chemical Co., Merchant Bank Bldg., Indianapolis
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Standard Naphthalene Prods. Co., S. Kearny, N. J.
U. S. Steel Corp., Pittsburgh 30

CRESYLIC ACID

American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Baird & McQuire, Inc., Holbrook, Mass.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Concord Chemical Co., 205 S. 2nd St., Camden 1, N. J.
Koppers Co., Pittsburgh 19
Merichem Co., 3101 Fannin St., Houston 4, Tex.
Oronite Chem. Co., 200 Bush St., San Francisco
Reilly Tar & Chem. Corp., Merchant Bank Bldg., Indianapolis
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17
Shell Oil Co., 50 W. 50th St., N. Y. 20
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
Standard Oil Co. of Calif., San Francisco
United States Steel Co., Pittsburgh 30
James Varley & Sons, 1200 Switzer Ave., St. Louis 15

CRUTCHERS

Edge Moor Iron Wks., Edge Moor, Del.
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark 5
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
H. K. Porter Co., Oliver Bldg., Pittsburgh
Struthers-Wells Co., Warren, Pa.

CUBE

Chemical Insecticide Corp., 129 Montague St., Brooklyn, N. Y.
Fairfield Chem. Div., 441 Lexington Ave., N. Y. 17
McLaughlin, Gormley, King Co., 1715 5th St., SE, Minneapolis
S. B. Penick & Co., 50 Church St., N. Y. 7
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.

CUTTING TABLES (see Soap Machinery)

CYANIDES (see Fumigants) (see Sodium Cyanide)

DAUBERS (see Shoe Polish Daubers)

DAIRY SPRAYS (see Cattle Dips and Sprays)

DD FUMIGANTS

Shell Chemical Corp., 460 Park Ave., N. Y. 22
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6

DDT (Dichloro-diphenyl-trichloroethane) (Technical)

Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Michigan Chem. Corp., St. Louis, Mich.

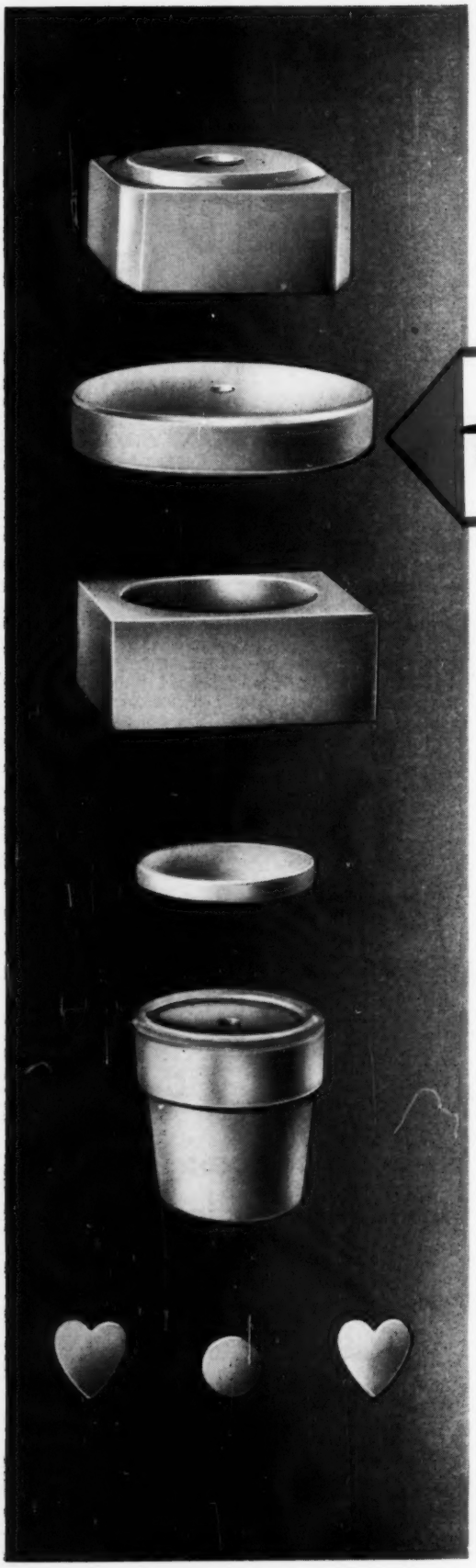
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
Westvaco Chlor-Alkali Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

DDT FORMULATIONS (Liquids and Powders)

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
A-M-R Chemical Co., 985 E. 35th St., Bklyn. 10
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chase Prods. Co., 1816 St. Charles Rd., Maywood, Ill.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chem. Insecticide Corp., 129 Montague St., Bklyn.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Douglas Chem. Co., 620 E. 16th Ave., North Kan. City, Mo.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Corp., Huntington, Ind.
Elkay Prods. Co., 323 W. 16th St., N. Y. 11
Fine Organics, Inc., 211 E. 19th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agric. Chems., Ardsley, N. Y.
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., N.Y.
Hysan Products Co., 936 W. 38th Pl., Chicago
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
Michigan Chemical Corp., St., Louis, Mich.
Midland Laboratories, Dubuque, Iowa
Miller Products Co., 1932 S. W. Water Ave., Portland, Ore.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
S. B. Penick & Co., 50 Church St., N. Y.
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Residex Corp., Foot of Centre St., Newark, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Science Industries, 1509 N. Broadway, St. Louis
Shell Chem. Corp., 50 W. 50th St., N. Y. 20
Swift & Co., Chicago 9
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
Uncle Sam Chemical Co., 575 W. 131 St., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Westvaco Chlor Alkali Div., Food Machy. & Chem. Corp., 405 Lexington Ave., N. Y. 17
Wilco Co., 4425 Bandini Blvd., Los Angeles 23

DEALERS (Chemicals)

Aceto Chem. Co., 40-40 Lawrence St., Flushing, N. Y.
Akron Chem. Co., 1025 Sweitzer Ave., Akron, Ohio
American-British Chem. Supplies, 180 Madison Ave., N. Y.
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, Ohio
Axton-Cross Co., Shelton, Conn.
Baker & Gaffney, Drexel Bldg., Philadelphia
H. J. Baker & Bro., 271 Madison Ave., N. Y.
Barada & Page, Kansas City, Mo.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Banner Chemical Co., 20 N. Wacker St., Chicago
Bershire Chemicals, Inc., 420 Lexington Ave., N. Y. 17
Buffalo Solvents & Chemicals Corp., Box 73 Station B, Buffalo 7, N. Y.
John H. Calo Co., 19 Rector St., N. Y. 6
Central Solvents & Chemical Co., 2540 W. Flournoy St., Chicago 12, Ill.
John A. Chew, Inc., 60 E. 42nd St., N. Y.
Consumers Chemical Co., Drexel Bldg., Philadelphia
T. G. Cooper & Co., Cedar & Venango Sts., Phila. 34
Delta Chem. Wks., 23 W. 60th St., N. Y. 23
Dickerson Co., Drexel Bldg., Phila.
Dixie Sols. & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Doe & Ingalls, 56 Garden St., Boston
A. C. Drury & Co., 219 E. North Water St., Chicago
Eastern Industries, Ridgefield, N. J.
Eaton Clark Co., 1490 Franklin St., Detroit
Faesy & Besthoff, 325 Spring St., N. Y.
Alex C. Fergusson Co., Drexel Bldg., Phila.
Fort Pitt Chemical Co., 3134 Penn Ave., Pittsburgh
Gaylord Chem. Co., 701 Woodsweather Rd., Kansas City
Globe Chemical Co., Murray Road, Cincinnati
Griffin Chem Co., 1000 16th St., San Francisco
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
C. P. Hall Co., Akron, Ohio



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DEALERS (CHEMICALS) (Contd.)

Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22, Ind.
H. D. Hornley Co., 34 S. 17th St., Phila.
Hummel Chemical Co., 90 West St., N. Y.
Innis Speiden & Co., 420 Lexington Ave., N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
E. & F. King & Co., 405 Atlantic Ave., Boston
C. Lievense, 11 Broadway, N. Y.
P. J. Lo Bue Co., 277 Park Ave., N. Y.
Los Angeles Chem. Co., 2200 Santa Fe Ave., Los Angeles
John F. Maher & Co., 1600 Henderson St., Houston, Tex.
Merchants Chemical Co., 60 E. 42nd St., N. Y.
Millmaster Chem. Corp., 295 Madison Ave., N. Y.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Clarence Morgan & Co., 919 N. Michigan Ave., Chicago
Wm. D. Neuberg Co., 420 Lexington Ave., N. Y.
Newman Tallow & Soap Machinery Co., 1051 W. 35th St., Chicago
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Philipp Bros. Chemicals, 37 Wall St., N. Y.
R. F. Revson Co., 144 W. 18 St., N. Y.
G. S. Robins & Co., 126 Chouteau Ave., St. Louis
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans 18, La.
K. A. Steel Chems., Inc., 7450 Stony Island Ave., Chicago
Tar Residuals, Inc., 420 Lexington Ave., N. Y.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Thompson-Hayward Chem. Co., 2915 Southwestern Blvd., Kansas City
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Arthur C. Trask Co., 4103 S. La Salle St., Chicago, Ill.
Jos. Turner & Co., Ridgefield, N. J.
Chas. A. Wagner Co., 4455 N. 6th St., Phila.
Welch, Holme & Clark Co., 439 West St., N. Y.
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11, Michigan
G. A. Wharry & Co., 125 Broad St., N. Y. 4
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee 14, Wis.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.

DEALERS (Oil and Fats)

Balfour, Guthrie & Co., 67 Wall St., N. Y.
John H. Calo Co., 19 Rector St., N. Y. 6
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Geo. Degen & Co., 111 Broadway, N. Y. 6
Delta Chem. Wks., 23 W. 60th St., N. Y. 23
Otto A. C. Hagen Corp., 929 Public Ledger Bldg., Phila.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y.
O. G. Innes Corp., 82 Wall St., N. Y.
Leghorn Trading Co., 141 E. 44th St., N. Y. C.
Miller & Co., 2401 Chestnut St., Philadelphia
Murray Oil Products Co., 21 West St., N. Y.
Neatsfoot Oil Refineries Corp., E. Ontario & Bath Sts., Phila.
Newman Tallow & Soap Machinery Co., 1501 W. 35th St., Chicago
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Willibald Schaefer Co., Foot of Boemen Ave., St. Louis
Sergeant Pulp & Chemical Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
K. A. Steel Chems., Inc., 7450 Stony Island Ave., Chicago
Swan-Finch Oil Corp., 205 E. 42nd St., N. Y.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Arthur C. Trask Co., 4103 S. La Salle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
G. A. Wharry & Co., 125 Broad St., N. Y. 4

DECALCOMANIAS

Meyercord Co., 5323 W. Lake St., Chicago 44
Palm Fechteler & Co., 99 Maple St., Weehawken, N. J.
Lehmann Printing & Lithographing Co., 300 2nd St., San Francisco

DECOLORIZING CARBONS

Atlas Powder Co., Wilmington, Del.
Cliffs-Dow Chem. Co., Marquette, Mich.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.

DEFOAMERS (Silicone)

Dow-Corning Corp., Midland, Mich.
General Electric Co., Waterford, N. Y.
Union Carbide & Carbon Co., 420 Lexington Ave., N. Y.

DEGREASING COMPOUNDS (see Cleaners)

DEODORANT SOAP (see Soaps, Antiseptics)

DEODORANTS (Basic chemicals for deodorant toilet soaps, lotions, etc.)

Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
Heyden-Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Hilton-Davis Chemical Co., 2235 Langdon Farm Rd., Cincinnati
Monsanto Chem. Co., St. Louis
Olin Mathieson Chem. Corp., Baltimore 3
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Ottawa Chem. Co., 819 Hamilton, Toledo, O.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Rohm & Haas Co., Washington Sq., Phila.
Sindar Corp., 330 W. 42nd St., N. Y.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.

DEODORANTS, Room Deodorants, Air Conditioning, Etc. (see Lists under Disinfectants; Glycol Sprays; Theatre Sprays)

DEODORIZED BASE OILS (See Insecticide Base Oils, Deodorized)

DEODORIZING BLOCK HOLDERS

Allied Block Chemical Co., 428 Bingham St., Pittsburgh
Chem. Service of Baltimore, Howard & West Sts., Baltimore
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Cin-Made Corp., 800 E. Ross Ave., Cincinnati 1
Eagle Soap Co., Huntington, Ind.
Elkay Products Corp., 323 W. 16th St., N. Y.
Franklin Metal Prods. Co., 16 W. Kinzie St., Chicago
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kleenaire Kemikils, Inc., 2227 24th St., Detroit
Shore Calnevar, Inc., 2881 E. Pico Blvd., Los Angeles
Uncle Sam Chem. Co., 573 W. 131st St., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. Calif., Chicago 12

DEODORIZING BLOCKS AND CRYSTALS

Allied Block Chemical Co., 428 Bingham St., Pittsburgh
Airkem, Inc., 241 E. 44th St., N. Y.
Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
Banner Chem. Prods. Co., 9 Calumet St., Newark, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Click Chemical Co., Columbus & Carleton Ave., Mt. Vernon, N. Y.
Clifton Chemical Co., 62 William St., N. Y. C.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Crystal Soap & Chem. Co., 6300 State Rd., Phila.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Elkay Products Corp., 323 W. 16th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kemilko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Kleenaire Kemikils, Inc., 2227 24th St., Detroit
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Midland Labs., Dubuque, Iowa
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Puritan Chemical Co., Atlanta, Ga.
Puro Co., 2801 Locust St., St. Louis
Sanders Chem. Co., 2205 N. American St., Phila. 33
I. Schneid, Inc., 916 Ashby St., N. W., Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Star Porcelain Co., 33 Muirhead Ave., Trenton, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Williams Chem. Co., 487 Broadway, N. Y. 13
York Chemical Co., 23 Dean St., Bklyn.

DEODORIZING BLOCK PERFUMES (see Perfuming Compounds)

DEODORIZING BLOCK PRESSES (see Presses)

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A petroleum based hydrocarbon developed to yield when sulfonated, finished detergent (solid, paste or liquid) of the alkyl aryl type combining a high degree of detergency, wetting, foaming, emulsifying and dispersing properties, with good color and little or no odor.

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A built all-purpose household detergent in dust-free bead form possessing excellent detergency and foaming characteristics. It is supplied in drums for local packaging. Also used as a detergent and cleanser for hospitals, dairies, factory buildings, railroad cars, motor cars, etc.

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Technical and pure Lauryl, Cetyl, Stearyl, and other fatty alcohols used principally in the manufacture of shampoos, textile auxiliary chemicals, detergent additives, quaternary ammonium compounds and cosmetics.

STANALONIC SA-096

An essentially 100% active non-ionic detergent and emulsifying agent for use in the textile industry. Excellent resistance to acids and alkalies. Used also for emulsifying mineral oils for agricultural uses, for formulating liquid detergents, glass, metal and dairy cleaners.

STANALTERG 80

A concentrated 80/85% sodium alkyl aryl sulfonate in powder or flake form. An excellent starting point for detergent formulation; little equipment is necessary to blend STANALTERG 80 with Sodium Phosphates, CMC or other "builders" to produce household and industrial detergents.

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Stanalchem offer their own brand of packaged household all-purpose detergent for cottons, delicate garments and dishwashing under their trade mark CLUE. This excellent detergent is supplied in attractive retail packages, or in bulk under the denomination STANALTERG DH Beads.

STANALPON ALCOHOL SULFATES

Sodium, Triethanolamine and Magnesium Salts of technical and pure lauryl alcohols in powder, liquid or paste form for shampoos, cosmetics, toothpastes, for use in the textile industry and for the formulation of liquid detergents.

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Stanalchem is a competitive source for all detergent raw materials and intermediates including:

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STANALTERG 40

A 40% active sodium alkyl aryl sulfonate in powder, flake or bead form for use in the Textile Industry as a wetting, penetrating, level-dyeing and dispersing agent. Can advantageously replace many more expensive textile adjuvants. STANALTERG 40 is also used as a "light-duty" household and industrial detergent.

DODECYLBENZENE SULFONIC ACID (95 to 97% Concentration)

Very stable, can be stored indefinitely, providing low cost intermediate for surface active agents. Liquid detergents based thereupon have exceptionally low cloud point. Save shipping expenses and import duties.

STANALONIC AA

A low foaming non-ionic detergent essentially 100% active specifically developed for detergent formulations used in automatic washing machines. Easy to formulate and highly effective at low concentrations.

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Stanalchem Inc. will be happy to furnish technical information regarding the use of their products and to recommend complete equipment for sulfonation, drying, mixing and packaging. You will benefit by writing to:

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Foster-Wheeler Co., 165 Broadway, N. Y.
William Garrigue & Co., 9 S. Clinton St., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Alan Porter Lee Associates, 19 South St., Morristown, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Pfaudler Co., 1000 West St., Rochester, N. Y.
F. J. Stokes Machine Co., 5918 Tabor Rd.,Phila.

DERRIS

Fairfield Chemical Div., 441 Lexington Ave., N. Y.
McLaughlin, Gormley, King Co., 1715 5th St. SE, Minneapolis
S. B. Penick & Co., 50 Church St., N. Y. 7
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.

DETERGENT SOLUTIONIZERS, for dispensing detergent and soap solutions ready for use. (see Soap Solutionizers)

DETERGENT INTERMEDIATES

Air Reduction Chem. Co., 150 E. 42nd St., N. Y. 17
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Antara Chemicals, Div. GAF, 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Atlantic Refining Co., 260 S. Broad St., Philadelphia 1
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Continental Oil Co., 630 5th Ave., N. Y. 20
Archer Daniels Midland Co., 2191 W. 110th St., Minneapolis
Atlas Powder Co., Wilmington 99, Dela.
Dehydag Deutsche Hydrierwerke, Henkelstrasse 67, Dusseldorf, Germany
Dow Chemical Co., Midland, Mich.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Enjay Co., 15 W. 51st St., N. Y. 19
Finetex, Inc., 418 Falmouth Ave., Paterson, N. J.
Geigy Industrial Chems., Ardley, N. Y.
Jefferson Chem. Co., Box 303, Houston, Tex.
Marchon Prods., Ltd., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4
Monsanto Chemical Co., St. Louis 4
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Ninol Laboratories, Prudential Plaza, Chicago
Nitrogen Div., Allied hem. & Dye Corp., 40 Rector St., N. Y.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Oronite Chemical Co., 200 Bush St., San Francisco 20
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Refined Products, Inc., Lyndhurst, N. J.
Shell Chemical Corp., 50 W. 50th St., N. Y. 20
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville 9, N. J.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.

DETERGENT SPRAY TOWERS

Bowen Engineering, Inc., 10 Station Rd., North Branch, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Refining Unincorporated, 70 W. 40th St., N. Y. 18
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

DETERGENTS (Alkali Type)

Aid Soap Mfg. Co., Rochester, Pa.
Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Buckingham Wax Co., 51-03 Van Dam St., LIC, N. Y.
Blockson Chemical Co., Joliet, Ill.
Calgin, Inc., Hagan Bldg., Pittsburgh 30
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Chem. Service Co. of Balto., Howard & West Sts., Balto.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Diversey Corp., 1820 W. Roscoe St., Chicago

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Impartial Advice because Monsanto makes products in every broad classification used by detergent formulators.

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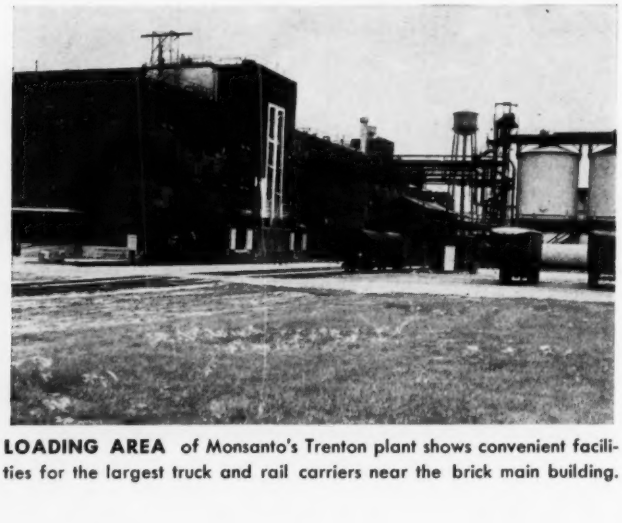


LOADING AREA of Monsanto's Trenton plant shows convenient facilities for the largest truck and rail carriers near the brick main building.

Fast, perfectly timed delivery. Everything you need is shipped from a Monsanto storage point near you—usually in just a few hours after your order comes in.

Here is a product listing for your file:

DETERGENT INTERMEDIATES

Alkyl Benzene
Phosphoric Acid
Dodecylbenzene Sulfonic Acid

PHOSPHATE SALTS

Monsodium Phosphate
Disodium Phosphate
Trisodium Phosphate
Tetrasodium Pyrophosphate
Sodium Tripolyphosphate
Sodium Acid Pyrophosphate
Tetrapotassium Pyrophosphate
Monopotassium Phosphate
Tripotassium Phosphate
S Q Phosphate

SURFACE-ACTIVE AGENTS

Each developed for specialized applications

Anionic (Alkyl aryl sulfonates)

Santomerse No. 1
Santomerse 85
Santomerse S
Santomerse SX
Santomerse 3 Paste
Santomerse E

Nonionic (Polyoxyethylene esters, ethers and thioethers)

Sterox CD
Sterox AJ
Sterox SK
Sterox 6

BUILT DETERGENTS

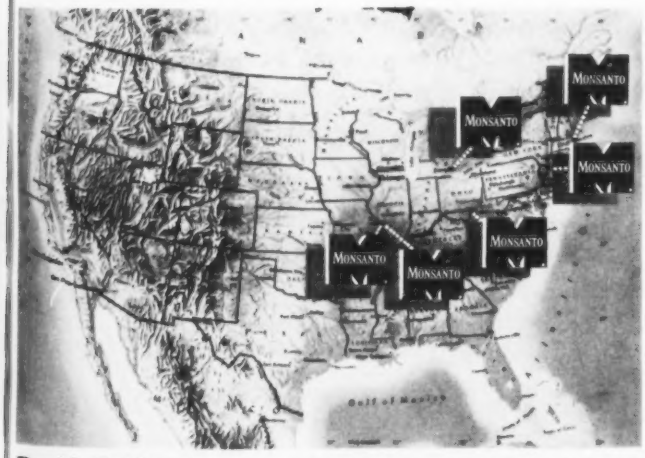
Sterox AWS
Detergent MXP*

Reg. U. S. Pat. Off.

why Monsanto

for detergent chemicals

Quality Control at every step—because Monsanto is basic. It controls manufacture from raw material to finished product. This sample library, for instance, contains specimens of every order shipped to customers.



Rapid Delivery . . . no matter where you are. Santomerse and Sterox surfactants and detergent phosphates are manufactured in Michigan, Missouri, Illinois, West Virginia, New Jersey, Massachusetts. Shipments of surface-active agents and detergent builders are made from many warehousing points.

World's largest producer of elemental phosphorus

For service, further information and/or copy of "Sodium Phosphates in Industry," phone the local Monsanto Office or write: MONSANTO CHEMICAL COMPANY, Inorganic Chemicals Division, Dept. SCS-1, 710 North Twelfth Blvd., St. Louis 1, Mo.

MONSANTO

WHERE CREATIVE CHEMISTRY WORKS WONDERS FOR YOU

DETERGENTS, SYNTHETIC (ALKALI TYPE) (Contd.)

Dubois Soap Co., Cincinnati
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
East Coast Soap Corp., 69 Coffey St., Bklyn. 31
Economics Laboratory, Guardian Bldg., St. Paul
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Frontier Chem. Prods, Inc., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore, Md.
J. Chemical Wks., 602 W. 37th St., N. Y.
General Chem. Div., Allied Dye & Chem. Corp., 40 Rector St., N. Y. 6
Haag Laboratories, 140th St. & Sorley Ave., Blue Island, Ill.
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., Dayton, O.
Hysan Products Co., 936 W. 38th Pl., Chicago
Marchon Prods., Ltd., Whitehaven, Cumberland, England
Olin Mathieson Chemical Corp., Baltimore 3
M. Michel & Co., 90 Broad St., N. Y.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Moss Soap Co., Pinellas Int'l Airport, St. Petersburg, Fla.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
Ninol Laboratories, Prudential Plaza, Chicago
Olin Mathieson Chem. Corp., Baltimore 3
Peck's Products, 610 E. Clarence Ave., St. Louis
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Philadelphia Quartz Co., 1146 Public Ledger Bldg., Phila.
Port Huron Detergent Co., Port Huron, Mich.
Quaker Chem. Prods., Conshohocken, Pa.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
John T. Stanley Co., 642 W. 30th St., N. Y.
Stevens Soap Co., 287 Conover St., Bklyn.
Swift & Co., Chicago 9
Tesco Chemicals, Inc., Atlantic 5, Ga.
Theobold Industries, P. O. Box 72, Harrison, N. J.
Treplow Products, Inc., 59 Camden St., Paterson, N. J.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Veneer-O-Wax Corp., 2010 E. Fletcher St., Phila.
Victor Chemical Wks., 155 N. Wacker Dr., Chicago
Virginia-Carolina Chem. Corp., 501 E. Main St., Richmond, Virginia
Westvaco Mineral Prods. Div., 161 E. 42nd St., N. Y. 17
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

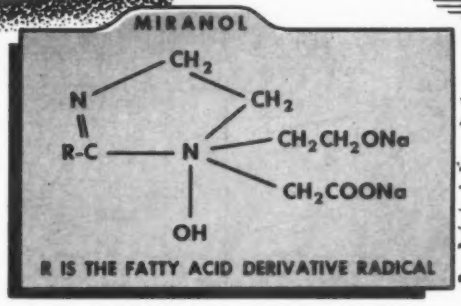
DETERGENTS, SYNTHETIC (Amphoteric), general

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City, N. J.
Quaker Chem. Prods., Conshohocken, Pa.
Rohm & Haas Co., Washington Sq., Phila.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Wyandotte Chems. Corp., J. B. Ford Div., Wynadotte, Mich.

DETERGENTS, SYNTHETIC (Anionic), alkyl aryl sulfonates

Armour & Co., 1355 W. 31st St., Chicago 9
Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
Arnold Hoffman & Co., 55 Canal St., Providence, R. I.
Atlantic Refining Co., 260 S. Broad St., Phila. 1
Atlas Powder Co., Wilmington 99, Dela.
Carlstadt Chem. Co., Carlstadt, N. J.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Continental Oil Co., 630 5th Ave., N. Y. 20
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Finetex, Inc., 418 Falmouth Ave., Paterson, N. J.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Marchon Prods., Ltd., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Knapp Products, Inc., Lodi, N. J.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4

MIRANOL "M" SERIES* OF AMPHOTERIC SURFACTANTS FOR EVERY PURPOSE



MIRANOL CM CONC.
Coconut Derivative

Clear product for dishwashing, floor cleaners, wax removers, industrial cleaners, liquid steam cleaner compounds, and bubble bath.

MIRANOL C2M CONC.
Coconut Dicarboxylic Derivative

Completely non-irritating. Specially recommended for the formulation of shampoos, hand soaps, rug shampoos and all such household and/or industrial cleaner formulations where complete absence of irritation is desired.

MIRANOL SM CONC.
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Clear product, low wetting qualities for shampoos, medicated shampoos, rug and fabric shampoos.

MIRANOL OM CONC.
Oleic Derivative

Low price. General purpose detergent for industrial and janitorial liquid cleaners of high viscosity. Emulsifier.

MIRANOL DM
Stearic Derivative

Low priced snow white paste. Hair rinse. Textile softener, can be used as an anionic or cationic product. Will not yellow with heat application.

More and more formulators are discovering the amazing properties and versatility of the MIRANOL "M" SERIES of amphoteric surface active agents. Numerous useful and desirable properties are combined in a single economical product. Also available at this time is the new line of MIRANOL SALT-FREE surface active agents.

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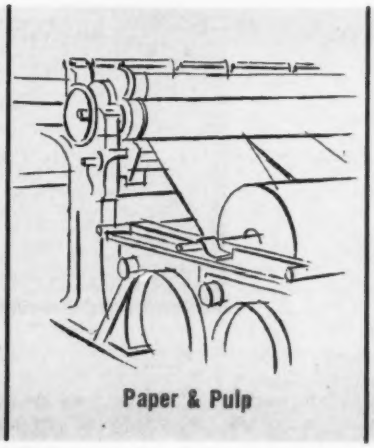

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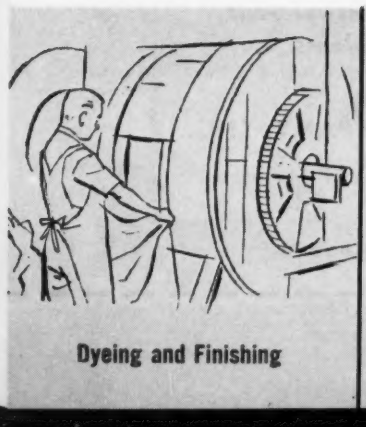
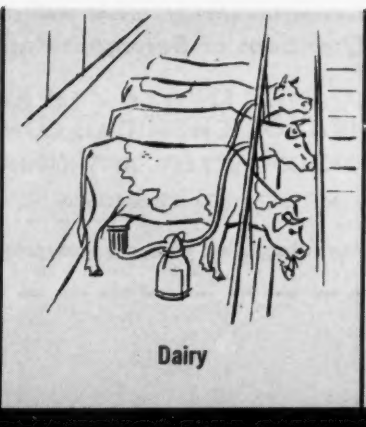
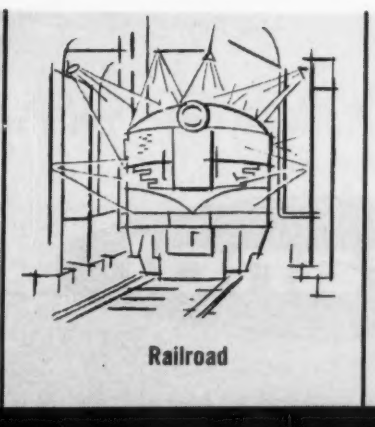


Dyeing and Finishing



Dairy



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NEOLENE 400 ... the successful ingredient used by leading surfactant processors

Not only the big processors, but a host of smaller ones, too, specify Neolene 400, an alkyl benzene of the highest quality. With its excellent balance of properties, Neolene 400 gives you an outstanding base for both liquid and dried formulations. Notable characteristics of Neolene 400 include:

- Stability During Sulfonation
- Uniformity
- Purity
- Better Color and Odor Characteristics
- Excellent Cleansing Properties
- Wetting and Foaming Ability for a Diversity of Applications

400

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CONOCO SULFONIC ACID—
an intermediate widely used by compounders who have their own neutralizing equipment, but do not have sulfonating facilities. It is readily neutralized with such bases as sodium or potassium hydroxide or with alkanolamines for liquid or dried formulations.

CONOCO C-50 SLURRY—
recommended for processors who have their own spray or drum dryer. Permits flexibility in choice of builders for the manufacture of light- or heavy-duty detergents.

CONOCO SD-40 AND CONOCO DD-40—
two anionic surface-active agents of the sodium alkyl aryl sulfonate type. SD-40 is a 40% active, spray-dried, free-flowing *bead*. DD-40 is a 40% active, drum-dried *flake*.

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PRODUCT	TYPE	USES	PROPERTIES
***PENDIT® WA COSMETIC** *By Rayette* (Clear Aqueous Solution)	Sodium lauryl sulfate	• Liquid and paste cream shampoos • Cosmetic suspensions and emulsions • Liquid dishwashing compositions • Car washes • Personal cleansing products • Industrial emulsions • Textile scouring • Emulsion polymerization • Fat liquoring leather • Metal plating • Metal cleaning	Lightest colored lauryl sulfate known. Stable; iron free, low salt content; neutral; 28-30% active.
***PENDIT® WA-T** *By Rayette* (Clear Fluid Liquid)	Triethanolamine lauryl sulfate	• Clear liquid shampoos • Foaming hand cleaners • Bubble baths	Low cloud point; outstanding color, foaming, detergency and wetting properties; 40-42% active.
***PENDIT® WA-D** *By Rayette* (Clear Water Solution)	Diethanolamine lauryl sulfate	• Clear liquid shampoos • Bubble baths • Foaming hand cleaners	33-36% active; anionic in character; pronounced color stability.
***PENDIT® CA** *By Rayette* (White Viscous Aqueous Paste)	Quaternary Ammonium Compound	• Creme rinse base • Emulsifier • Dairy sanitizer • Paper conditioner • Fabric softener • Textile lubricant • Mold inhibitor • Industrial deodorant • Germicide	Cationic hair emollient; very light color; bodifier; powerful germicidal, deodorant and antistatic properties. Stabilized against separation.
THIOGLYCOLIC ACID *By Rayette* (Water-White Aqueous Solution)	65-75% Concentrate of Thioglycolic Acid	• Hair waving lotions • Initiator for production of bis-phenol A • Organo tin esters as polyvinyl chloride stabilizers • Esters as chain transfer agents in emulsion polymerization • Stabilizer for acrylonitrile polymers • Intermediate for extreme high pressure lube oil additives • Depilatory • Intermediate for special textile softening and dyeing agents	Completely free of the oxidation product dithiodiglycolic acid.
AMMONIUM THIOGLYCOLATE *By Rayette* (Cosmetic Grade) (Water-White Aqueous Solution)	50-60% Concentrate of Ammonium Thioglycolate	• Hair waving lotions	Same as above.

*Pendit® is a registered trade-mark of Rayette, Inc. Chemical Division

* FORMERLY:

Raymond laboratories, incorporated

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RAYETTE* inc.
Chemical Division

275 East Fifth, St. Paul 1, Minnesota

DETERGENTS, SYNTHETIC (Anionic), alkyl aryl sulfonates (Contd.)

Monsanto Chem. Co., St. Louis 4
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Ninol Laboratories, Prudential Plaza, Chicago
Orenite Chemical Co., 200 Bush St., San Francisco 20
Pilot California Co., 215 W. 7th St., Los Angeles 14
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Procter & Gamble Dist. Co., Cincinnati
Quaker Chem. Prods., Conshohocken, Pa.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Surfact-Co., Inc., Box 114, Blue Island, Ill.
Swift & Co., Chicago 9
Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Universal Detergents, Inc., 1825 E. Spring St., Long Beach 6, Calif.
Warwick Chem. Co., 10-10 44th Ave., Long Island City, N. Y.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

DETERGENTS, SYNTHETIC (Anionic), alkyl sulfates

American Alcolac Corp., 3440 Fairfield Rd., Baltimore 26
Atlas Powder Co., Wilmington 99, Dela.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Carlstadt Chem. Co., Carlstadt, N. J.
DeHydag Deutsche Hydrierwerke, Henkelstrasse 67, Dusseldorf, Germany
E. I. du Pont de Nemours & Co., Wilmington, Dela.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Marchon Prods., Inc., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Procter & Gamble Dist. Co., Cincinnati
Quaker Chem. Prods., Conshohocken, Pa.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Stanalchem Inc., 350 Madison Ave., N. Y.
Stepan Chemical Co., 20 N. Wacker Dr., Chicago
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville 9, N. J.
Warwick Chemical Co., 10-10 44th Ave., Long Island, N. Y.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

DETERGENTS, SYNTHETICS (Anionic), alkyl sulfonates

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Atlas Powder Co., Wilmington 99, Dela.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Carlstadt Chem. Co., Carlstadt, N. J.
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y. 4
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Treplow Products, Inc., 50 Camden St., Paterson, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y. 4
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

DETERGENTS, SYNTHETIC (Anionic), sulfated and sulfonated amides and amines

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, GAF, 435 Hudson St., N. Y. 14
Arnold Hoffman & Co., 55 Canal-St., Providence, R. I.
Atlas Powder Co., Wilmington 99, Dela.
Carlstadt Chem. Co., Carlstadt, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Fiber Chem. Corp., Matawan, N. J.

DETERGENTS, SYNTHETIC (Anionic), sulfated and sulfonated amides and amines (Contd.)

Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Quaker Chem. Prods., Conshohocken, Pa.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Surfact-Co, Inc., Box 114, Blue Island, Ill.
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville 9, N. J.
Warwick Chem. Co., 10-10 44th Ave., Long Is. City, N. Y.
Welch, Holme & Clarke Co., 439 West St., N. Y. 14
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

DETERGENTS, SYNTHETIC (Anionic), Miscellaneous types

Armour & Co., 1355 W. 31st St., Chicago 9
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Arnold Hoffman & Co., 55 Canal St., Providence, R. I.
Atlas Powder Co., Wilmington 99, Dela.
Carlstadt Chem. Co., Carlstadt, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Fiber Chem. Corp., Matawan, N. J.
Hewitt Soap Co., 333 Linden Ave., Dayton 3, O.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Knapp Products, Inc., Lodi, N. J.
Marathon Corp., Chem. Sales Dept., Rothschild, Wisc.
Marchon Prods., Ltd., Whitehaven, Cumberland, England
Maywood Chem. Wks., 100 W. Hunter Ave., Maywood, N. J.
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Monsanto Chem. Co., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Ninol Laboratories, Prudential Plaza, Chicago
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Pilot California Co., 215 W. 7th St., Los Angeles 14
Process Chems. Co., 8733 S. Dice, Los Nietos, Calif.
Procter & Gamble Dist. Co., Cincinnati
Quaker Chem. Prods., Conshohocken, Pa.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Refined Products Inc., Lyndhurst, N. J.
Rohm & Haas Co., Washington Sq., Phila.
Royce Chem. Co., Carlton, N. J.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chemical Co., 20 N. Wacker Drive, Chicago
Surfact-Co, Inc., Box 114, Blue Island, Ill.
Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
Treplow Products Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.
Warwick Chem. Co., 10-10 44th Ave., Long Is. City, N. Y.
Welch, Holme & Clarke Co., 439 West St., N. Y. 14

DETERGENTS, SYNTHETIC (Cationic), for bacteriocidal uses

Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Arnold, Hoffman & Co., 55 Canal St., Providence, R. I.
Atlas Powder Co., Wilmington, Dela.
Cowles Chem. Co., 7016 Euclid Ave., Cleveland 3
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Fiber Chem. Corp., Matawan, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Monsanto Chem. Co., St. Louis
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Procter & Gamble Dist. Co., Cincinnati

DETERGENTS, SYNTHETIC (Cationic), for bacteriological uses (Contd.)

Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Rohm & Haas Co., Washington Sq., Phila.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18

DETERGENTS, SYNTHETIC (Cationic), general

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Arnold, Hoffman & Co., 55 Canal St., Providence, R. I.
Atlas Powder Co., Wilmington 99, Dela.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Fiber Chem. Corp., Matawan, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Knapp Prods., Inc., Lodi, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Process Chems. Co., 8733 S. Dice Rd., Los Angeles, Calif.
Procter & Gamble Dist. Co., Cincinnati
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Refined Prods., Inc., Lyndhurst, N. J.
Rohm & Haas Co., Washington Square, Phila. 5
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Warwick Chemical Co., 10-10 44th Ave., L. I. C., N. Y.

DETERGENTS, SYNTHETIC (Finished), liquid, non-sudsing

Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-88 47th Ave., Long Island City 1, N. Y.
Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Barger Chems., Inc., Norwalk, Conn.
Chem. Service of Balto., Howard & West Sts., Balto. 30
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Deko Chem. Co., 764 N. Hawthorne Blvd., Hawthorne, Calif.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Dura Wax Co., McHenry, Ill.
East Coast Soap Corp., 89 Coffee St., Bklyn. 31
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Frontier Chem. Prods., Inc., 119 E. Soper St., St. Louis 11
Fuld Bros. Inc., 702 S. Wolfe St., Baltimore 31
Help, Inc., 122 W. Kinzie St., Chicago
Hysan Products Co., 936 W. 38th Pl., Chicago
Klenzade Prods., Beloit, Wisc.
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
Monsanto Chem. Co., St. Louis
Moss Soap Co., Pinellas Int'l Airport, St. Petersburg, Fla.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Peck's Prod's. Co., 610 E. Clarence Ave., St. Louis 15
Procter & Gamble Dist. Co., Cincinnati
Reilly Chem. Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
Sanders Chem. Co., 2205 N. American St., Phila. 33
E. B. Snyder Laboratories, 2137 E. Harold St., Phila. 35
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Tesco Chemicals, Inc., Atlanta 5, Ga.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Veneer-O-Wax Corp., 2010 E. Fletcher St., Phila.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8

DETERGENTS, SYNTHETIC (Finished), liquid, sudsing

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-88 47th Ave., Long Island City 1, N. Y.
Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9

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TREPOLATE L-40 — *sodium dodecyl benzene sulfonate slurry — 40% active* — Homogenous — easily adaptable for liquid and dry products.

TREPOLATE F-40 or P-40 — *sodium dodecyl benzene sulfonate — flake/powder 40% active* — uniform particle size — custom made to fit your specifications.

TREPOLATE F-85 or P-85 — *sodium dodecyl benzene sulfonate — flake/powder 85% active* — whiter color — outstanding in sudsing and dispersion properties.

TREPOLATE F-95 — *sodium dodecyl benzene sulfonate — flake — 95% min. active.* Highest purity — practically salt-free — excellent emulsifier.

TREPOLATE T-60 — *TEA dodecyl benzene sulfonate — 60% active* — excellent water solubility — free of inorganic salts.

TREPOLATE YLA — *amine dodecyl benzene sulfonate — min. 95% active* — designed for kerosene emulsion degreasers and charge systems.

ALKYL SULFATES:

TREPENOL WA — *sodium lauryl sulfate paste — 30% active* — NaCl content nil — outstanding in foam and detergency — excellent for liquid and paste cream shampoos — low salt content makes it advantageous for emulsion polymerization of resins.

TREPENOL WAT — *TEA lauryl sulfate — liquid — 45% active* — low cloud point — excellent detergent for liquid clear shampoos.

TREPENOL AM — *ammonium lauryl sulfate — liquid — 30% active* — for use in acid pH shampoos — good color and odor.

TREPENOL EP — *DEA lauryl sulfate — liquid — 40% active* — good color stability — low cloud point for liquid clear shampoos.

TREPENOL MG — *magnesium lauryl sulfate — liquid — 30% active* — excellent for rug cleaning formulations — has good suspending properties — dries to a powder — can be easily vacuumed.

ETHOXYLATED SULFATES:

TREPENOL E.O. ACID — *nonyl phenol polyglycol ether sulfuric acid* — a recent development of TREPLOW laboratories — a relatively stable sulfuric acid designed for liquid dishwashing compounds — affords greater versatility in formulating — labor and time saving, not to mention, storage — lends itself to greater concentration of end product.

TREPENOL A-60 — *ammonium nonyl phenol polyglycol ether sulfate — 60% active* — for use in liquid dishwashing compounds — gentle to hands — good foamer — excellent detergency — acid pH.

TREPENOL S-40 — *sodium nonyl phenol polyglycol ether sulfate — 40% active* — for alkaline based liquid dishwashing compound — high foamer — excellent detergency.

TREPENOL T-100 — *TEA nonyl phenol polyglycol ether sulfate — 100% active* — highest concentrate possible only through TREPLOW research — inorganic salt free — economical.

TREPENOL S-30-T — *sodium tridecanol polyglycol ether sulfate — 30% active* — based on a synthetic "lauryl" alcohol — low cloud point — compatible, to a degree, with cationics — excellent shampoo base — foams better in hard water than in distilled water.

TREPENOL T-100-T — *TEA tridecanol polyglycol ether sulfate — 100% active* — anhydrous product — excellent emulsifier and coupler — extremely mild.

ALKANOLAMIDES:

TREPOLINE 505 — *DEA fatty acid condensate* — most economical of all fatty acid alkanolamides — auxiliary emulsifier and thickener — low foamer.

TREPOLINE CN-61 — *DEA cocoanut oil condensate* — recommended for floor cleaners — heavy duty type.

TREPOLINE L — *DEA lauric acid condensate* — excellent foam stabilizer for anionic detergents.

TREPOLINE LM-46 — *DEA lauric acid condensate — concentrate* — high concentration of TREPOLINE L — excellent for foam and viscosity control.

TREPOLINE S-4 — *DEA cocoanut oil condensate* — light in color — good foam stability — humectant properties.

TREPOLINE M-3 — *DEA cocoanut oil condensate — concentrate* — higher concentrate of S-4 type — chemically compatible with quaternary ammonium compounds.

SULFATED ESTERS:

TREPENE SULFATE — *sodium di-octyl sulfosuccinate* — instantaneous wetter — superior for surface tension lowering.

Our laboratories are available for further refinement of present products. Inquiries for the development of new products for application in all industries are invited.

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CUSTOM BLENDING

The completeness of the Stepan line makes possible important savings. From this wide selection less than carload ingredients totalling a carload where suitable can be blended at small additional cost and carload price effected. Or, the individual items can be shipped as mixed carload at carload prices.

ALKYLOLAMIDES

Both conventional and new high purity alkylolamides. Stepan high purity amides have a guaranteed minimum amide content of 90%. Also amides to your specifications. Our large capacity may well effect important savings for you.

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The Stepan Chemical Company has complete laboratory facilities to assist you in every way possible toward developing the product most suitable to your needs. Our technical staff will also be pleased to consult with you on new products as well as new applications of our present products.

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CHEMICAL COMPANY

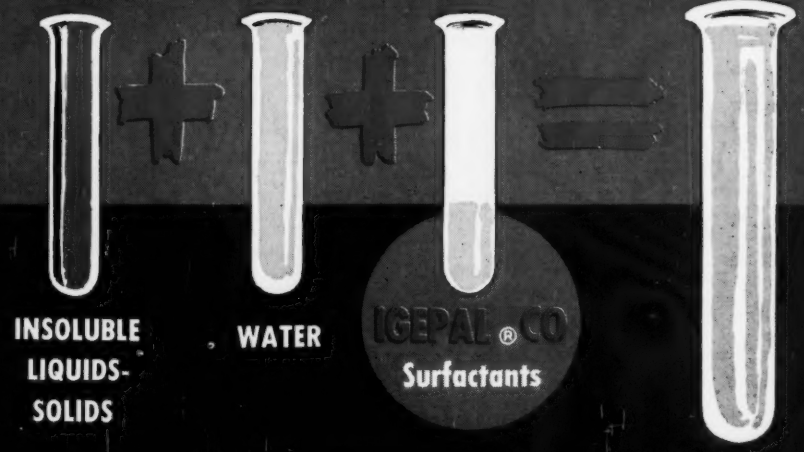
20 N. Wacker Drive, Chicago 6, Illinois
Telephone: CEntral 6-5511

DETERGENTS, SYNTHETIC (Finished), liquid, sudsing (Contd.)

Baird & McGuire, Inc., Holbrook, Mass.
Barger Chems., Inc., Norwalk, Conn.
Betco Corp., 830 Elysian Ave., Toledo 7, O.
Carlstadt Chem. Co., Carlstadt, N. J.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Chem Service of Balto., Howard & West Sts., Balto.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Dura Wax Co., McHenry, Ill.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Fuld Bros. Inc., 702 S. Wolfe St., Baltimore
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Eagle Soap Co., Huntington, Ind.
Hysan Products Co., 936 W. 38th Pl., Chicago
Kearny Mfg. Co., Kearny, N. J.
Klenzade Prods., Beloit, Wisc.
Magna-Krom Prods., 108 Sumner Ave., Vandergrift, Pa.
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
Maywood Chem. Wks., Maywood, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Moss Soap Co., Pinellas Int'l. Airport, St. Petersburg, Fla.
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
National Sanitary Products Co., 3944 Olive St., St. Louis
Ninol Laboratories, Prudential Plaza, Chicago
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Old Empire, Inc., 865 Mt. Prospect Ave., Newark, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City, N. J.
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
Pecks Prods. Co., 610 E. Clarence Ave., St. Louis 15
Pilot California Co., 215 W. 7th St., Los Angeles 14
Process Chems. Co., 8733 S. Dice Rd., Los Angeles, Calif.
Procter & Gamble Dist. Co., Cincinnati
Refined Prods., Inc., Lyndhurst, N. J.
Reily Chemical Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
Royce Chem. Co., Carlton Hill, N. J.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sandoz Chem. Wks., 61 Van Dam St., N. Y. 13
E. B. Snyder Laboratories, 2137 E. Harold St., Phila. 25
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Surety Laboratories, 3946 Olive St., St. Louis 8
Surfact-co, Inc., Box 114, Blue Island, Ill.
Swift & Co., Chicago 9
Tesco Chemicals, Inc., Atlanta 5. Ga.
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010 E. Fletcher St., Phila.
Warwick Chem. Co., 10-10 44th Ave., Long Is. City, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y. 14
Roy Wilson Mfg. Co., Archer Ave., Chicago 8

DETERGENTS, SYNTHETIC (Finished), powder, non-sudsing

Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-88 47th Ave., Long Island City 1, N. Y.
Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Chem. Service of Balto., Howard & West Sts., Balto.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Essential Chems. Co., 2200 N. 32nd St., Milwaukee 8
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Frontier Chem. Products, Inc., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore



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For better answers to surfactant problems, look to the most complete line of nonionics based on nonylphenol.

NAME	n*	%E/01	USE
IGEPAL CO-210	1½	23	Foam control, cosolvent.
IGEPAL CO-430	4	44	Emulsification, Chemical Intermediate.
IGEPAL CO-530	6	54	
IGEPAL CO-630	9-10	65	Detergency, wetting, emulsification, dispersion (use temperature determines choice of product).
IGEPAL CO-710	10-11	68	
IGEPAL CO-730	15	75	
IGEPAL CO-850	20	80	Stabilization of latices and emulsions. General purpose surfactants for concentrated electrolyte solutions.
IGEPAL CO-880	30	86	

*Moles of ethylene oxide per mole of nonylphenol.
†Percent of ethylene oxide.

Further application information, literature and technical assistance on IGEPAL CO surfactants available upon request.

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DETERGENTS, SYNTHETIC (Finished), powder, non-sudsing (Cont'd.)

Hysan Products Co., 936 W. 38th Pl., Chicago
J. Chem. Corp., 437 — 11th Ave., N. Y. 18
Klenzade Prods., Beloit, Mich.
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
Monsanto Chem. Co., St. Louis 4
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 15
Sanders Chem. Co., 2205 N. American St., Phila. 33
Science Industries, 1950 N. Broadway Ave., St. Louis
Stanalchem Inc., 350 Madison Ave., N. Y. 17
John T. Stanley Co., 642 W. 30th St., N. Y.
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Swift & Co., Chicago
Tesco Chemicals, Inc., Atlanta 5, Ga.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.

DETERGENTS, SYNTHETIC (Finished), powder, sudsing

Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-88 47th Ave., Long Island City 1, N. Y.
Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Chicago Sanitary Prod. Co., 3100 E. Throop St., Chicago 8
Chem. Service of Balto., Howard & West Sts., Balto.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Continental Oil Co., 630 5th Ave., N. Y. 20
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Emulsol Chem. Corp., 75 E. Wacker Dr. Chicago
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Frontier Chem. Prods., Inc., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayton 3, O.
Hysan Products Co., 936 W. 38th Pl., Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Klenzade Prods., Beloit, Mich.
Marchon Prods. Ltd., Whitehaven, Cumberland, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Moss Soap Co., Pinellas Int'l. Airport, St. Petersburg, Fla.
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
National Sanitary Prods. Co., 3944 Olive St., St. Louis 8
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 15
Pilot California Co., 215 W. 7th St., Los Angeles, 14
Procter & Gamble Dist. Co., Cincinnati
Sanders Chem. Co., 2205 N. American St., Phila. 33
Science Industries, 1509 N. Broadway Ave., St. Louis
Stanalchem Inc., 350 Madison Ave., N. Y. 17
John T. Stanley Co., 642 W. 30th St., N. Y.
Geo. Stearns Chem. Corp., 4200 S. Mendota St., Madison, Wisc.
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Surety Laboratories, 3946 Olive St., St. Louis 8
Swift & Co., Chicago 9
Tesco Chemicals, Atlanta 4, Ga.
James Varley & Sons, 1200 Switzer Ave., St. Louis
Virginia-Carolina Chem. Corp., 401 E. Main St., Richmond, Va.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Welch, Holme & Clarke Co., 439 West St., N. Y. 14

DETERGENTS, SYNTHETIC (Non-Ionic), acid derivatives

Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Atlas Powder Co., Wilmington 99, Dela.
Blockson Chem. Co., Joliet, Ill.
Carlstadt Chem. Co., Carlstadt, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Marchon Products, Ltd., Whitehaven, Cumberland, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Monsanto Chem. Co., St. Louis
Ninol Laboratories, Prudential Plaza, Chicago
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila. 2
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago

DETERGENTS, SYNTHETIC (non-ionic), acid derivatives (Contd.)

Surfact-Co, Inc., Box 114, Blue Island, Ill.
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

DETERGENTS, SYNTHETIC (Non-Ionic), alcohols and thiols

Air Reduction Chem. Co., 60 E. 42nd St., N. Y. 17
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
Atlas Powder Co., Wilmington 99, Dela.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
E. I. du Pont de Nemours & Co., Wilmington
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Hercules Powder Co., 961 King St., Wilmington
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Monsanto Chem. Co., St. Louis 4
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Quaker Chem. Prods., Conshohocken, Pa.
Rohm & Haas Co., Washington Sq., Phila.
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago

DETERGENTS, SYNTHETIC (Non-Ionic), phenols, naphthols and alkyl phenols

Antara Chemicals, General Aniline & Film Corp., 435 Hudson St., N. Y.
Atlas Powder Co., Wilmington, Dela.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
E. F. Drews & Co., 15 E. 26th St., N. Y. 10
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Hercules Powder Co., 961 Market St., Wilmington, Del.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Jefferson Chemical Co., Box 303, Houston, Tex.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
Ninol Laboratories, Prudential Plaza, Chicago
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Rohm & Haas Co., Washington Sq., Phila.
Quaker Chem. Prods., Conshohocken, Pa.
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila. 2
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chemical Co., 20 N. Wacker Dr., Chicago
Warwick Chem. Co., 10-10 44th Ave., L.I.C., N. Y.
Wyandotte Chems. Corp., Michigan Alkali Div., Wyandotte, Mich.

DETERGENTS, SYNTHETIC (Non-Ionic), amides and amines

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
Atlas Powder Co., Wilmington 99, Dela.
Carlstadt Chem. Co., Carlstadt, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland
Haag Laboratories, Inc., 140th St. & Seeley Ave., Blue Island, Ill.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Kearny Mfg. Co., Kearny, N. J.
Knapp Prods., Inc., Lodi, N. J.
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Ninol Laboratories, Prudential Plaza, Chicago
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Refined Products, Inc., Lyndhurst, N. J.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Swift & Co., Chicago 9
Treplow Products, Inc., 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville 9, N. J.
Warwick Chem. Co., 10-10 44th Ave., Long Is. City, N. Y.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

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Oronite's D-40 finished dry detergent in flake, granule or powder form has excellent foaming power in hard or soft water. D-60 offers you a higher active product. Nonionic Dispersant NI-W is a water soluble, low sudsing product desirable where "foam" is a handicap.

want *rapid,* thorough "wetting"?

D-40, D-60 in dry form, Wetting Agent "S" in paste form and NI-W in liquid form have superior wetting ability. Compare these products with those you are now using—samples are available. Or, tell us your particular needs for "wetting" and we can provide suggested formulations.

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D-40 and D-60 have the ability to emulsify and suspend animal, vegetable, and mineral fats, oils and greases. Oronite's water soluble Dispersant NI-W is completely compatible with soaps, anionic detergents and cationic germicides. Its companion product Dispersant NI-O is an outstanding emulsifier for water-in-oil emulsions.

ORONITE CHEMICAL COMPANY

EXECUTIVE OFFICES
200 Bush Street, San Francisco 20, California

SALES OFFICES
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30 Rockefeller Plaza, New York 20, New York
20 North Wacker Drive, Chicago 6, Illinois
Mercantile Securities Building, Dallas 1, Texas
Carew Tower, Cincinnati 2, Ohio
714 W. Olympic Blvd., Los Angeles 15, Calif.

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ORONITE CHEMICAL COMPANY
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☐ I desire further information regarding the following properties of Oronite surfactants. ( ) Anionic ( ) Nonionic ( ) Detergency ( ) Sudsing ( ) Wetting ( ) Emulsification

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DETERGENTS, SYNTHETIC (Non-Ionic), miscellaneous types

Air Reduction Chem. Co., 60 E. 42nd St., N. Y. 17
Armour & Co., 1355 W. 31st St., Chicago 9
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
Arnold, Hoffman & Co., 55 Canal St., Providence, R. I.
Atlas Powder Co., Wilmington 99, Del.
Blockson Chem. Co., Joliet, Ill.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Geigy Industrial Chemicals, Ardsley, N. Y.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Hercules Powder Co., 961 Market St., Wilmington
Knapp Products, Inc., Lodi, N. J.
Marchon Prods., Ltd., Whitehaven, Cumberland, Eng.
M. Michel & Co., 90 Broad St., N. Y. 4
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Mona Industries, 65 E. 23rd St., Paterson, N. J.
Monsanto Chem. Co., St. Louis 4
Ninol Laboratories, Prudential Plaza, Chicago
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Olin Mathieson Chem. Corp., Baltimore 3
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Rohm & Haas Co., Washington Square, Phila. 5
Royce Chem. Co., Carlton Hill, N. J.
Sandoz Chem. Wks., 61 Van Dam St., N. Y. 13
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila. 2
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Treplow Products, 59 Camden St., Paterson, N. J.
Van Dyk & Co., Belleville 9, N. J.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Warwick Chem. Co., 10-10 44th Ave., Long Is. City, N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

DIATOMACEOUS EARTH

Charles B. Chrystal Co., 53 Park Pl., N. Y. 7
Dicalite Div., 612 S. Flower St., Los Angeles
Eagle-Picher Co., Cincinnati, O.
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y. 16
Tamms Industries, 228 N. LaSalle St., Chicago
Whittaker Clark & Daniels, 260 W. Broadway, N. Y.

DIELDRIN

Shell Chemical Corp., 460 Park Ave., N. Y.

DIELDRIN FORMULATIONS

Agricultural Chemicals, Inc., Greenville, Miss.
Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Atlas Chem. Corp., Waynesboro, Ga.
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Carolina Chemicals, Inc., West Columbia, S. C.
Chapman Chemical Co., 707 Dermon Bldg., Memphis, Tenn.
Chipman Chemical Co., Bound Brook, N. J.
Coahoma Chemicals, Inc., Beacon, N. Y.
Crop-Saver Chem. Co., 3511 Potomac Ave., Chicago
Douglas Chem. Co., 620 E. 16th Ave., North Kan. City, Mo.
Flag Sulphur & Chem. Co., Tampa, Fla.
Florida Agricultural Supply Co., P. O. 658, Jacksonville, Fla.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
McLaughlin, Gormley King Co., 1715 5th St., Minneapolis, Minn.
Naco Fertilizer Co., Charleston, S. C.
S. P. Penick & Co., 50 Church St., N. Y. 8
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
Plainsman Supply Co., Plainview, Tex.
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.
Reasor-Hill Corp., Jacksonville, Ark.
Residex Corp., Foot of Centre St., Newark, N. J.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Triangle Chemical Co., Macon, Ga.
Tyner Petrus Co., W. Monroe, La.
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Virginia-Carolina Chemical Corp., Richmond, Va.
Woolfolk Chem. Wks., Fort Valley, Ga.
York Chem. Co., 23 Dean St., Bklyn. 1

DIES (see Soap Dies)

DIETHANOLAMINE (see listings under Ethanolamines)

DIETHYLENE GLYCOL (see under Ethylene Glycols)

DIFFUSERS (Steam and Air)

Dula Manufacturing Co., 351 Atlantic Ave., Brooklyn
Gallo Mfg. Co., 1312 Forest St., Racine, Wisc.
Hydro-Mist Div., Arnold Laboratories, 1515 W. Glenoaks Blvd., Glendale, Calif.

DILUENTS, INSECTICIDES (see Clays; also Abrasives and Fillers)

DINONYL PHENOL

Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Jefferson Chem. Co., Box 303, Houston, Tex.

DIP TUBES, AEROSOL (see Aerosol Dip Tubes)

DIPHENYL OXIDE (see Aromatic Chemicals)

DISH WASHING COMPOUND DISPENSERS

Bobrick Dispensers, Inc., 1216 Nostrand Ave., Bklyn., 25
Chem. Service of Baltimore, Howard & West Sts., Baltimore
Dema Engineering Co., 8333 Gravois Ave., St. Louis
Economics Laboratory, Inc., Guardian Bldg., St. Paul
Etna Electronics, Inc., Etna, N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hunnewell Soap Co., 114 W. 2nd St., Cincinnati
Hysan Prods. Co., 936 W. 38th Place, Chicago
Independent Specialties, 152 W. 75th St., Chicago
J. Chemical Works, 602 W. 37th St., N. Y. 18
Minipump, Inc., 6th & Buchanan, Phoenix, Ariz.
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 15
Rumford Chem. Wks., Rumford, R. I.
Theobald Industries, P. O. Box 72, Harrison, N. J.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

DISH WASHING COMPOUNDS (see Cleaning Compounds, Dry)

DISINFECTANTS, CHLORINATED

Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Baird & McGuire, Inc., Holbrook, Mass.
Banner Chem. Prods. Co., 9 Calumet St., Newark 5, N. J.
Blockson Chem. Co., Joliet, Ill.
Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Cowles Chem. Co., 7015 Euclid Ave., Cleveland 3
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Fuld Bros., 702 S. Wolfe St., Baltimore
Haag Laboratories, 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila. 37
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Hysan Products Co., 936 W. 38th Place, Chicago
Midland Labs., Dubuque, Iowa
Monsanto Chemical Co., St. Louis
National Chemical Laboratories, 825 Lombard St., Phila.
National Milling & Chem. Co., 461 Flat Rock Rd., Phila. 27
National Sanitary Prods., 3944 Olive St., St. Louis 8
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
North Coast Soap & Chem. Works, Seattle, Wash.
Oil Kraft, Inc., 3330 Beekman St., Cincinnati
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Olin Mathieson Chem. Corp., Baltimore
Ottawa Chem. Co., 823 Hamilton St., Toledo, O.

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Peck's Products Co., 610 E. Clarence Ave., St. Louis 15
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Reily Chemical Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
G. S. Robins & Co., 126 Chouteau Ave., St. Louis 2
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
H. V. Smith & Co., 1910 University Ave., St. Paul, Minn.
L. Sonneborn & Sons, 300 4th Ave., N. Y. 10
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chemical Co., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Victor Chem. Co., 155 N. Wacker Dr., Chicago 6
James Varley & Sons, 1200 Switzer Ave., St. Louis
Westvaco Chlor-Alkali Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y. 17
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

DISINFECTANTS, COAL TAR and PINE OIL

Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
A-M-R Chem. Co., 985 E. 35th St., Bklyn. 10
Baird & McGuire, Inc., Holbrook, Mass.
Boston Chemical Industries, 64 E. Brookline St., Boston
Buckingham Wax Co., Van Dam St. & Borden Ave., L. I. City, N. Y.
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Chemical Compounding Corp., 262 Huron St., Brooklyn
Chemical Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Wm. Cooper & Nephews, 1909 Clifton Ave., Chicago
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Crystal Soap & Chem Co., 6300 State Rd., Phila.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Elkay Products Co., 323 W. 16th St., N. Y.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Fergusson Laboratories, Drexel Bldg., Phila.
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Fuld Bros., 702 S. Wolfe St., Baltimore
Frontier Chem. Prods., 119 E. Soper St., St. Louis
Gaylord Chem. Co., 701 Woodsweather Rd., Kansas City
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
Higley Chem. Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hysan Products Co., 936 W. 38th Place, Chicago
K. B. Chem. Co., Dunnell's Lane, Pawtucket, R. I.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Klix Chem. Co., 551 Railroad Ave., South San Francisco, Calif.
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
Midland Labs., Dubuque, Iowa
National Chemical Laboratories, 825 Lombard St., Phila.
New Jersey Chemical Co., 56 Park Ave., Lyndhurst, N. J.
N. Y. Soap Co., 258 Third St., Brooklyn
Old Empire Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Perrow Chemical Co., Hurt, Va.
Puritan Chem. Co., Atlanta, Ga.
J. W. Quinn Drug Co., Greenwood, Miss.
Rex-Cleanwall Corp., 238 S. Murphy Ave., Brazil, Ind.
Reily Chemical Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
Riverside Chem. Co., N. Tonawanda, N. Y.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
I. Schneid, Inc., 916 Ashby St., N. W., Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
H. V. Smith & Co., 1910 University Ave., St. Paul, Minn.
L. Sonneborn Sons, 300 — 4th Ave., N. Y.
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden 1, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Surety Laboratories, 3946 Olive St., St. Louis 8
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Sprayway, Inc., 7640 Vincennes Ave., Chicago 20
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Ave., Chicago 12
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

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** **CETOL** Cetyl Dimethyl Benzyl Ammonium Chloride	. . . Supplied in 100% crystalline powder for pharmaceutical use in lozenges and solubilizing thyrotricin.
** **BROMAT** Cetyl Trimethyl Ammonium Bromide (Also known as CETAB; under world health organization nomenclature CETRIMIDE, Cetrammonium Bromide)	. . . Supplied as 100% active material as against British Pharmacopeia Cetrimide requiring only 82% active; as industrial, cosmetic, and toilet deodorant.
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Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila. 25
Vliet & Co., 638 Monroe St., Brooklyn
T. F. Washburn Co., 2244 Elston Ave., Chicago
West Disinfecting Co., Long Island City, N. Y.

DISINFECTANTS, QUATERNARY AMMONIUM (see also Quaternary Ammonium Compounds)

Airkem, Inc., 241 E. 44th St., N. Y. 17
Allied Block Chemical Co., 428 Bingham St., Pittsburgh
Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Antara Chemicals, Div. GAF, 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Atlas Powder Co., Wilmington, Del.
Baird & McGuire, Inc., Holbrook, Mass.
Barger Chemicals, Inc., Main Ave., Norwalk, Conn.
Buckingham Wax Co., 51 Van Dam St., L. I. C., N. Y.
Chem. Serv. of Balto., Howard & West Sts., Balto.
Chicago San. Prods. Co., 3100 S. Throop St., Chicago 8
Columbia Chemical Co., 154 E. Erie St., Chicago
Cowles Chemical Co., 7016 Euclid Ave., Cleveland 3
Crystal Soap & Chemical Co., 6300 State Rd., Phila.
Davies-Young Soap Co., Dayton 1, O.
Deko Chem. Co., 764 N. Hawthorne Blvd., Hawthorne, Calif.
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
Fine Organics, Inc., 211 E. 19th St., N. Y.
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
Gallowhur Chem. Corp., Ossining, N. Y.
James Good, Inc., 2107 Susquehanna Ave., Phila. 25
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Place, Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
K. B. Chem. Co., Dunnell's Lane, Pawtucket, R. I.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Klix Chem. Co., 551 Railroad Ave., South San Francisco, Calif.
Lorenz Chem. Co., 135 N. 32nd Ave., Omaha
Midland Laboratories, Dubuque, Iowa
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
Nopco Chemical Co., Harrison, N. J.
Old Empire Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City, N. J.
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Reily Chemical Co., Industrial Prods. Div., P.O. Box 98, New Orleans, La.
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Rohm & Haas Co., 222 W. Washburn Sq., Philadelphia
Theo. Ross Assts., 835 W. Olympic Blvd., Los Angeles
I. Schneid, Inc., 916 Ashby St., N. W., Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
Sterwin Chemicals, Inc., 1450 Broadway, N. Y.
Surety Laboratories, 3946 Olive St., St. Louis 8
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010 E. Fletcher St., Phila.
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Wilco Company, 4425 Bandini Blvd., Los Angeles 23
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

DISINFECTANTS (Other than foregoing, including basic chemical materials)

E. I. du Pont de Nemours & Co., Wilmington, Del.
Fleetwood Prods. Co., 509 5th Ave., N. Y.
Hilton-Davis Chemical Co., 2235 Langdon Farm Rd., Cincinnati
Monsanto Chem. Co., St. Louis
Ottawa Chem. Co., 819 Hamilton St., Toledo, O.
Sindar Corp., 330 W. 42nd St., N. Y.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.

DISODIUM PHOSPHATE (see Sodium Phosphate)

DISPENSERS, BOTTLE (see Sprayers and Atomizers, Bottle)

DISPENSERS, SOAP (see Soap Dispensers)

DISPENSING AGENTS (see Surface Active Agents)

DISSEMINATORS, PERFUME (see Perfume Disseminators)

DOG REPELLENTS

California Spray-Chemical Corp., Richmond, Calif.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Davies-Young Soap Co., Dayton 1, O.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Products Co., 936 W. 38th Place, Chicago
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Science Industries, 1509 N. Broadway, St. Louis
Trio Chem. Wks., 341 Scholes St., Bklyn.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Williams Chem. Co., 487 Broadway, N. Y. 13

DRAIN PIPE SOLVENTS

Ampion Corp., 44-88 47th Ave., Long Island City, N. Y.
Bilco Chemical Co., 607 DeGraw St., Bklyn.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Drackett Co., 5020 Spring Grove, Cincinnati 32
Elkay Products Co., 323 W. 16th St., N. Y.
Eagle Soap Co., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila.
Help, Inc., 122 W. Kinzie St., Chicago
Higley Chemical Co., Dubuque, Ia.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Place, Chicago
Industrial Labs., 17-19 W. Conway St., Baltimore
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Midland Labs., Dubuque, Iowa
North Coast Chem. & Soap Wks., Seattle, Wash.
Olin Mathieson Chem. Corp., Baltimore 3
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Science Industries, 1509 N. Broadway, St. Louis
Simoniz Co., 2100 Indiana Ave., Chicago 16
S. & S. Soap Co., 815 E. 135 St., N. Y. 54
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Warsaw Chem. Co., Ind.
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

DRIP MACHINES

Hysan Products Co., 936 W. 38th Place, Chicago
Mollen Chem. Co., 1850 N. Uber St., Phila. 21
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.

DRUM FILLING MACHINERY (see Filling Machinery, Drums)

DRUM LINERS (see Liners)

DRUM WASHERS (see Washing Machinery, Drums)

DRUMS, Fibre

Buffalo-Carpenter Container Corp., P. O. Box 518, Niagara Falls, N. Y.
Carpenter Container Corp., 147 41st St., Brooklyn 32
Continental Can Co., 100 E. 42nd St., N. Y. 17
Emery-Carpenter Container Co., Carew Tower, Cincinnati
Federal Fibre Corp., 3704 10th St., L. I. C., N. Y.
Fibre Drum Co., 20 N. Wacker Dr., Chicago 6
Master Package Corp., Owen, Wisc.
Monmouth Container Corp., Matawan, N. J.
Plyfiber Container Corp., 650 South Ave., Garwood, N. J.
Rheem Manufacturing Co., 7600 S. Kedzie Ave., Chic. 29
Seymour & Peck Co., Blue Island, Ill.
Virginia Barrel Co., P. O. Box 86, Staten Island, N. Y.

DRUMS, Metal

Bennett Industries, Peotone, Ill.
Cleveland Steel Barrel Co., 9612 Meech Ave., Cleveland 5
Continental Can Co., 100 E. 42 St., N. Y. 17
Eastern Steel Barrel Corp., 3021 Lincoln Blvd., Bound Brook, N. J.
Florida Drum Co., 208 E. Liberty St., Pensacola, Fla.
Geuder, Paeschke & Frey Co., 1550 W. St. Paul Ave., Milwaukee
Inland Steel Container Co., 6532 S. Menard Ave., Chicago 28
Jones & Laughlin Steel Corp., 405 Lexington Ave., N. Y. 17
Manion Steel Barrel Co., Rouseville, Pa.
Myers Drum Co., 6549 San Pablo Ave., Oakland, Calif.

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2-AMINO-2-METHYL-1-PROPANOL

use AMP as an emulsifier

AMP oleate is an economical emulsifier in water-wax emulsions. That's because AMP oleate is effective in lower concentrations than are required for comparable performance with other amine soaps. Emulsions made with relatively low concentrations of AMP oleate are stable and unchanged after repeated freeze-thaw cycles and heat stability tests. In properly formulated floor wax emulsions, AMP oleate imparts high gloss and excellent leveling characteristics.

The higher fatty acid soaps of AMP are powerful emulsifying agents in cleaners, polishes, dressings, self-polishing floor waxes, and emulsion-type paints. Evaporation loss and objectionable fumes are minimized during emulsion manufacture, due to AMP's relatively high boiling point. Films deposited from AMP-made emulsions have excellent water resistance and durability.

use AMP as a chemical intermediate

AMP forms substituted amides with esters, anhydrides, and acyl halides. AMP also reacts with alkyl halides, aldehydes, ketones, carbon disulfide, and many other compounds. These reactions suggest the use of AMP in the synthesis of surface-active agents, detergents, and vulcanization accelerators for rubber.

PHYSICAL PROPERTIES

Molecular Weight	89.14
Boiling Point, at 760mm	165°C
Melting Point	30-31°C
Specific Gravity at 20/20°C	0.934
pH of 0.1M Aqueous Solution at 20°C	11.3
Solubility	Miscible with water, aromatic hydrocarbons, alcohols, esters. Insoluble in aliphatic hydrocarbons.

SPECIFICATIONS

Neutral Equiv.	88.5-91.0
Color, APHA, max.	20
Water, by wt., max.	0.8%
Distill. Range	156°C-177°C
Below 161°C, max.	10%
Above 168°C, max.	5%
Odor	Characteristic
Non-volatile matter by weight, max.	0.005%

OTHER AMINOHYDROXY COMPOUNDS

AMPD (2-Amino-2-methyl-1, 3-propanediol) $CH_2OHC(CH_3)NH_2CH_2OH$

AEPD (2-Amino-2-ethyl-1, 3-propanediol) $CH_2OHC(C_2H_5)(NH_2)CH_2OH$

TRIS AMINO (Tris [hydroxymethyl] aminomethane) $(CH_2OH)_3CNH_2$

AB (2-Amino-1-butanol) $CH_3CH_2CHNH_2CH_2OH$

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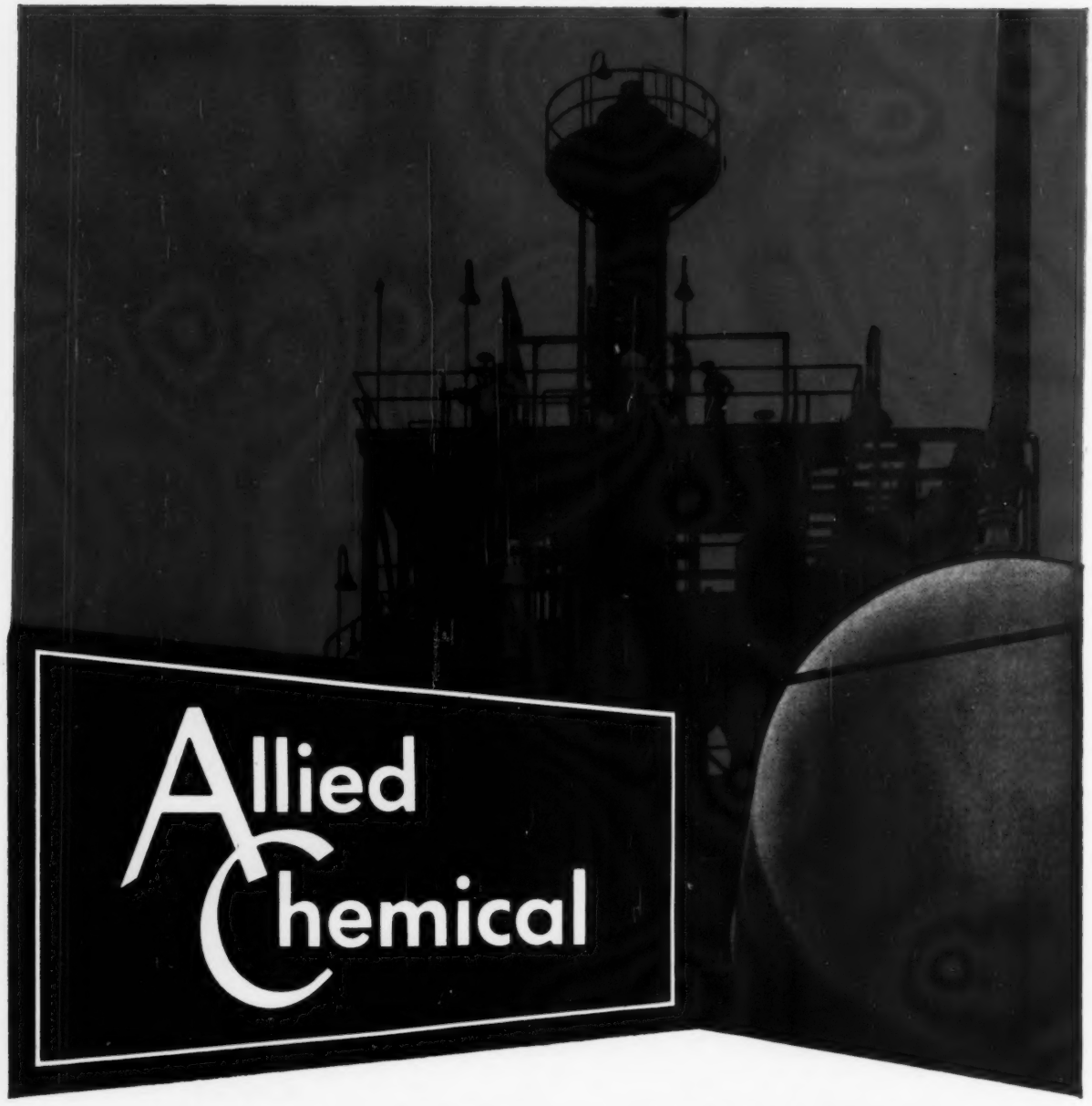

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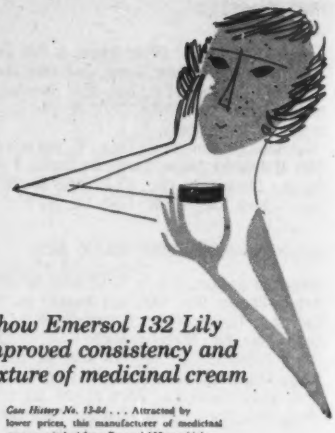
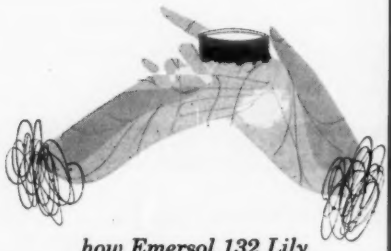
Confirmation of these extra values lies in actual customer experiences, some of which are reproduced below. And since Emersol Stearic and Oleic Acids cost no more than competitive grades, why not order your next requirements from Emery and obtain such benefits yourself?



how Emersol 132 Lily improved consistency and texture of medicinal cream

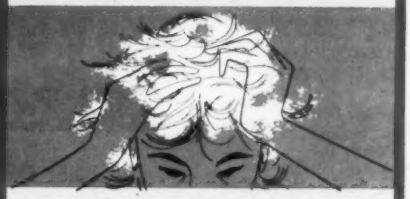
Case History No. 13-84 . . . Attracted by lower prices, this manufacturer of medicinal creams switched from Emersol 132 to a high-quality hydrogenated solid acid. Immediately, the non-crystalline structure of the latter product reflected in an objectionable change in the texture and consistency of the cream . . . substantially reducing its performance and sales-appeal. The switch back to crystalline Emersol 132 Lily eliminated all difficulties.



how Emersol 132 Lily gave lighter-colored esters for cosmetics and toiletries

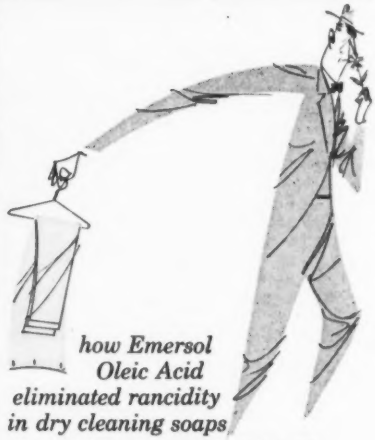
Case History No. 12-41 . . Because of the higher purity associated with lighter-colored products, this well-known manufacturer of esters was approached for lighter-colored monostearates for use in cosmetics, toiletries, and similar type products. Since esters are exposed to high temperatures during manufacturing, this producer's logical approach was to investigate the color stability of his ingredients. On checking various stearic acids, he found that the outstanding color stability of Emersol 132 Lily gave him exceptionally light-colored monostearates, far better than those from all others tested. And since Emersol 132 costs no more than competitive triple-pressed grades, this extra "sales-appeal" cost him nothing.

Emersol® 211 Elaine increased sales appeal of premium shampoo



Case History No. 22-42: A well-known manufacturer of premium shampoos replaced the ordinary single-distilled oleic acid in his formulation with Emersol 211 Low Titer Elaine because of its uniform color and greater resistance to color change during aging. The resultant uniform color of his shampoos produced greater consumer acceptance and subsequently greater sales.

While uniformity of color was this manufacturer's primary concern, he found also that Emersol 211's outstanding oxidation stability, superior resistance to rancidity, uniform viscosity, and low unsaponifiable content, added materially to the overall quality and aging properties of his products. And since Emersol 211 costs no more than competitive grades, all these sales advantages were realized at no extra cost.



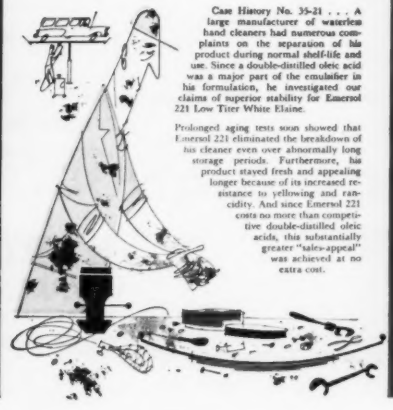
how Emersol Oleic Acid eliminated rancidity in dry cleaning soaps

Case History No. 35-54 . . . To reduce complaints of odor in cleaned clothes, this well-known manufacturer of dry-cleaning soaps evaluated the resistance to rancidity of all available high-quality oleic acids. His tests proved conclusively that Emersol 233 LL Elaine gave his product maximum resistance to rancidity . . . far better than any other oleic acid tested. In this case, not only were "odor" complaints reduced substantially, but an important sales advantage was gained over competitive dry cleaning soaps.

Emersol® 132 Lily withstood 2 years Storage with no ill-effects

Case History No. 2-51: A medium sized manufacturer of high-quality esters uncovered a number of bags of Emersol 132 Lily that somehow had escaped inventory rotation. Although the appearance and odor of the material was normal, he sent samples to us for assurance that it still met our high quality standards since his records indicated receipt 2 years ago. Our test results indicated that the Emersol 132 Lily was practically as good as the day it was made.

Emersol® 221 White Elaine eliminated breakdown of waterless hand cleaner



Case History No. 35-21 . . . A large manufacturer of waterless hand cleaners had numerous complaints on the separation of his product during normal shelf-life and use. Since a double-distilled oleic acid was a major part of the emulsifier in his formulation, he investigated our claims of superior stability for Emersol 221 Low Titer White Elaine.

Prolonged aging tests soon showed that Emersol 221 eliminated the breakdown of his cleaner even over abnormally long storage periods. Furthermore, his product stayed fresh and appealing longer because of its increased resistance to yellowing and rancidity. And since Emersol 221 costs no more than competitive double-distilled oleic acids, this substantially greater "sales-appeal" was achieved at no extra cost.

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Carlstadt Chemical Co., Carlstadt, N. J.
Colgate-Palmolive Co., 105 Hudson St., Jersey City, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emery Industries, Carew Tower, Cincinnati 2
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
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Geigy Industrial Chemicals, Ardsley, N. Y.
General Mills, Chemical Div., Kankakee, Ill.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y. 18
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Kessler Chem. Co., State Rd. & Cottman Ave., Phila. 35
Knapp Prods., Inc., Lodi, N. J.
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Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.
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Continental Oil Corp., 630 Fifth Ave., N. Y. 20
Emery Industries, Inc., Carew Tower, Cincinnati
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Baker Castor Oil Co., 120 Broadway, N. Y. 5
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Petrolatum, White Mineral Oils

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E. F. Drew & Co., 15 E. 26 St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Theobald Industries, P. O. Box 72, Harrison, N. J.
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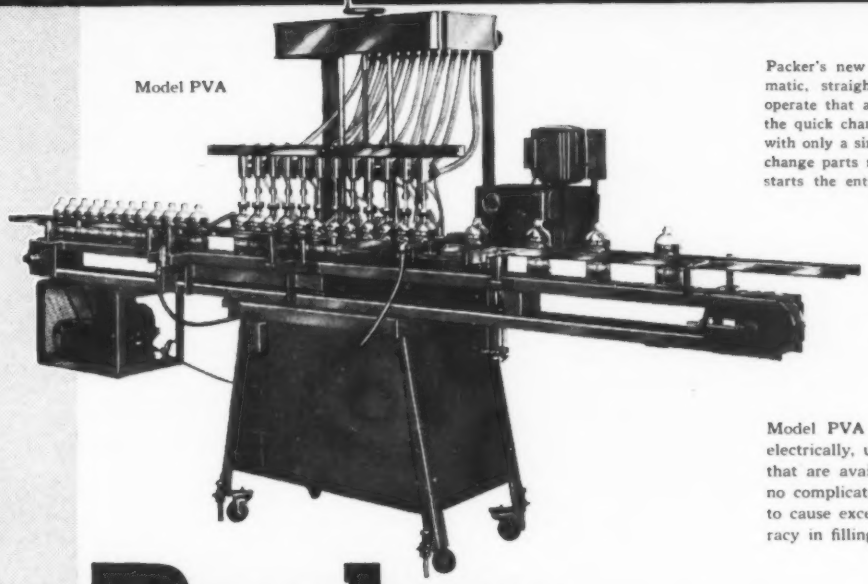

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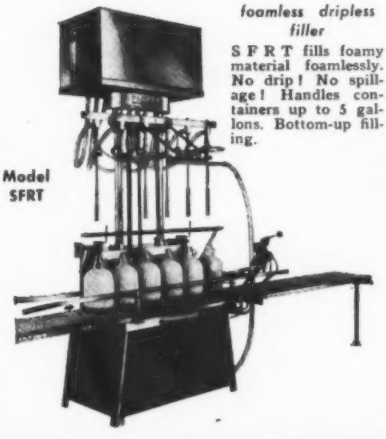

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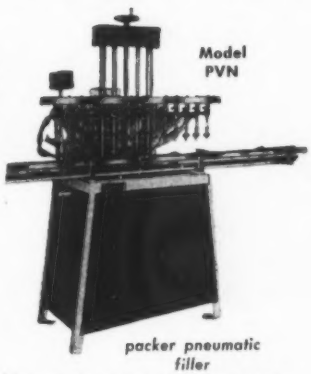

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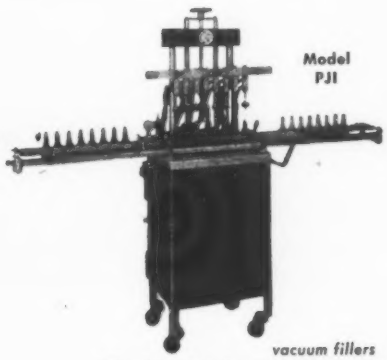

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Triangle Package Machinery Co., 6643 W. Diversey Ave., Chicago
U. S. Automatic Box Machy. Co., Boston 31, Mass.
Weigh Right Automatic Scale Co., 404 Grant Ave., Joliet, Ill.

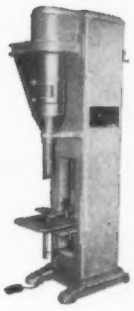
FILTER AIDS

American Colloid Co., Merchandise Mart Plaza, Chicago
Dicalite Div., 612 S. Flower St., Los Angeles
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Hercules Filter Corp., 175 Ethel Ave., Hawthorne, N. J.
Industrial Chem. Sales Div., West Va. Pulp and Paper Co., 230 Park Ave., N. Y.
Johns-Manville Prods. Corp., 22 East 40th St., N. Y.
Peerless Clay & Mineral Co., Pueblo, Colo.
Tenn. Prod. & Chem. Corp., Nashville 3, Tenn.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y. 17
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.

FILTER PRESSES

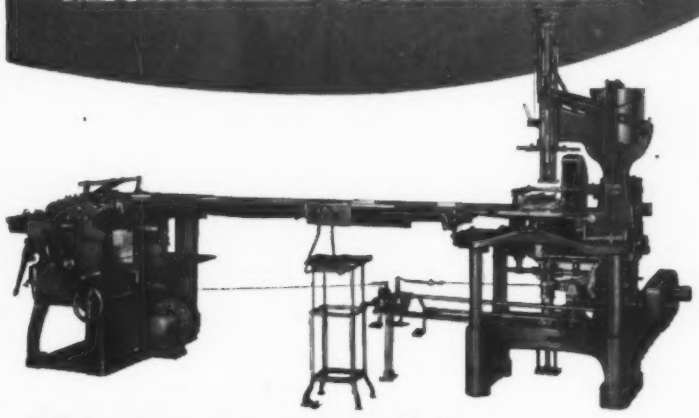
Alsop Engineering Corp., Milldale, Conn.
Bart-Messing Corp., 229 Main St., Belleville, N. J.

Improved Dexterity in MECHANIZED PACKAGING...



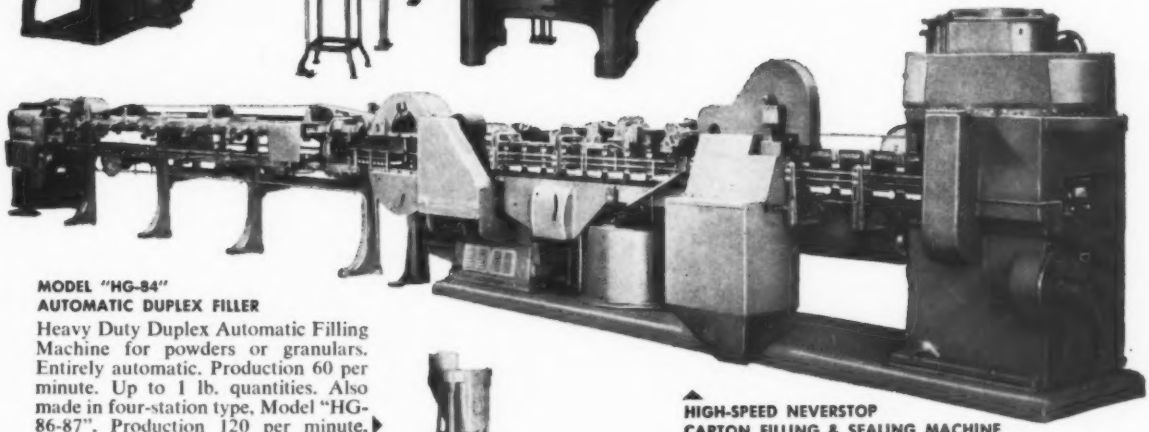
MODEL "EG" UNIVERSAL FILLER

Newest design. Fully streamlined. Fills by gross weight or by packing or by measurement. Handles powders, granulars or pastes. Various types of containers. ¼ oz. up to 5 lbs. or more. Production 15 to 30 per minute.



STOKESFEED PAPER BOX MACHINE

A complete paper box gluing, feeding and wrapping unit. Made in two sizes—Model "B" and Model "H". Completes up to 40 boxes per minute. Only one operator required. MODEL "B"—maximum: 20" x 15" x 4"; minimum: 6" x 4" x ½". Model "H"—maximum: 15" x 10" x 2¾"; minimum: 4" x 1¾" x ½".

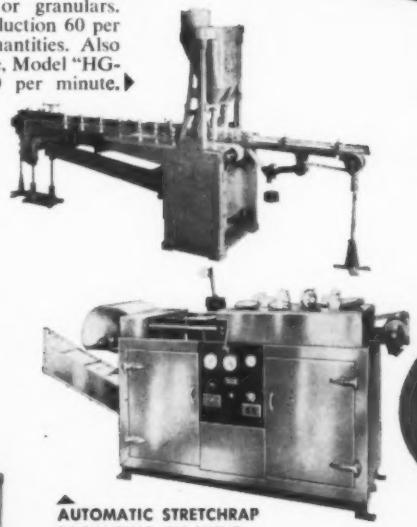


MODEL "HG-84" AUTOMATIC DUPLEX FILLER

Heavy Duty Duplex Automatic Filling Machine for powders or granulars. Entirely automatic. Production 60 per minute. Up to 1 lb. quantities. Also made in four-station type, Model "HG-86-87". Production 120 per minute.

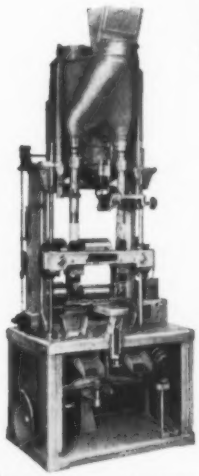
HIGH-SPEED NEVERSTOP CARTON FILLING & SEALING MACHINE

For free-flowing products. Feeds, fills and seals cartons, both top and bottom, in one continuous operation. Cartons 5 5/16" x 3 7/16" x 1 3/16" to 8½" x 6" x 2⅛" 60 to 200 or more per minute. One operator.



AUTOMATIC STRETCHRAP PACKAGING MACHINE

For wrapping odd shapes of articles or pieces, smoked meats, sausage, toys, etc. with heat sealing "Pliofilm". One operator required. Production 12 to 15 per minute.



STOKESWRAP AUTOMATIC PACKAGING MACHINE

Equipped with auger feed. Forms, fills and heat-seals the package, taking printed or unprinted web from roll stock. Volume to 56 cubic inches or 1 lb. 50 to 120 packages per minute.

...ENGINEERED BY STOKES & SMITH CO.

STOKES & SMITH CO.

4972 SUMMERDALE AVENUE, PHILADELPHIA 24, PA.

Pacific Coast: SIMPLEX PACKAGING MACHINERY, INC., 534 - 23rd AVE., OAKLAND 6. CALIF.

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SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION

TRADE MARK

Federal ····Your one BEST source for SEALERS, WAXES AND MAINTENANCE MATERIALS

QUALITY and PROFITS

FLOOR FINISHES

★ **C.P.R. Finish*** — The newest development in quality floor finishes. Will not discolor or darken with age. Can be used for gym floors or industrial floors, where outstanding wear and chemical resistance is necessary, without sacrificing color and appearance.

★ **No-Burn Gym Finish*** — The outstanding original finish for gym floors. Will not rubber burn — withstands boiling water, resists alkalies, acids, heat and cold.

★ **Dri-Fast Seal & Finish*** — The ideal speed finish for wood, linoleum and concrete floors. NOT A LACQUER. Base tung oil and phenol resins. Dries quickly — pale and long wearing.

Terrazzo Finish* — Will not discolor or darken terrazzo. Dries quickly — can be buffed for beautiful luster. Prevents dusting.

Flexi-Color Rubberized Color Coat — For cement, concrete, wood, linoleum or metal. Tenaciously adheres to cement — stubbornly resists moisture.

Asphalt Tile Finish* — Renews and refinishes asphalt, rubber, linoleum and mastic floors. Seals and finishes new or old floors with one coat.

FLOOR SEALERS

★ **C.P.R. Sealer*** — Outstanding development in floor sealers. Penetrates without usual discoloration — will not darken with age. May be used under heaviest traffic conditions. Highly water, wear and chemically resistant.

★ **Stay Light Sealer** — A light color, fast drying, penetrating sealer especially recommended for industrial application. May be used for very lightest color where speed finishing is necessary.

★ **Fed-Co*** — Highest quality penetrating wood sealer. Exceptional hardness and wearing qualities — easily applied with mop or spray.

★ **Penetroil*** — Very pale in color. Approved by Maple Flooring Manufacturers Association. Properly fills the pores with a durable elastic film — water resistant.

★ **Quick-Prime*** — Fast drying oleo-resinous type primer. Dries in less than two hours. Ideal for large industrial plants, mills, bakeries and schools where speed finishing is a must.

Surface Seal — A fast drying surface finish recommended for all types of previously sealed floors. Light in color and high in gloss this finish resists yellowing.

Flex Cure Seal — Rubber base penetrating sealer for use on new concrete floors to prevent dusting, staining and discoloration. Requires no etching — dries in less than an hour — one coat application.

Flex-Cure-Seal-Metallic — This product was developed especially for new concrete floors where a one coat treatment is desired with the combined sealing and dustproofing action—plus a hiding agent for discolorations. Dark spots on concrete floors are eliminated—dries in 1 hour.

Concrete Sealer — Quick drying oleo-resinous especially formulated for concrete surfaces. Suitable for large industrial applications where maximum chemical resistance is not required.

Terrazzo Sealer* — Water white — will not discolor terrazzo. Prevents dusting, chipping and disintegration. Resists water, soap, acid and alkali.

Mastic (Asphalt)* Tile Sealer* — Seals tile against dust, dirt, grease, etc. Dries in less than an hour — will not soften tile or run the colors. Beautifies and highlights original colors.

Ready Mixed Color Concentrates — Beauty and durability for cement, concrete, wood and metal. Applied with brush or lamb's wool applicator. Resists oils, gasoline, alcohol, mild acids and alkalies.

★ **MAPLE FLOOR MANUFACTURERS ASSOCIATION APPROVED.**

WAXES

Super Lightning Lustre* — Self-polishing, high quality, extra heavy duty wax. Pure Carnauba Wax-Base. Light color — highly water resistant — longer wear and buffability.

Super Lightning Lustre-With Ludox — Same base as the above wax with Ludox added to give maximum anti-slip protection without sacrifice of gloss, durability or other fine performance features.

Slo-Tred* — Self-polishing. Tested and approved by Underwriters' Laboratories, Inc., as an anti-slip material. Made with Carnauba wax — high gloss.

L-1290 Concentrate — 25% Solids — Extremely stable wax concentration for reduction to lower solid content. Retains high gloss — excellent water resistance — anti-slip and good durability at any lower solid content.

Liquid Oil Base Wax — Buffs and polishes beautifully — easily applied with a mop or applicator. Super quality.

Var-Lin — Carnauba Base liquid buffing wax. White, will not discolor linoleum or wood floors. Makes excellent finish for sealed concrete floors. Highest quality obtainable.

Tuf-Wax — Buffable emulsion paste wax for use on any type of composition flooring where maximum hardness, non-slip and water resistance is required. Produces a film of high luster and toughness.

SPECIAL FLOOR TREATMENTS

Gloss Grip* — A new waxless, water-soluble synthetic floor sealer and finish for use on all types of floors. Particularly recommended for Asphalt Tile, Vinyl and Rubber Tile floors. High gloss — no wax — satety for all floors. Does not contain Ludox.

Sila-Kone-Gloss* — New type of floor treatment containing silicone. Requires no polishing. Economical, safe floor maintenance.

Sil-Lox* — A wax replacement finish containing silicone and Ludox for positive anti-slip. No polishing required. Ideal for hard surface floors. Easy to remove.

**Listed and Approved by Underwriters Laboratories as an Anti-Slip Material.*

SPECIAL CLEANING, MAINTENANCE AND FINISHING MATERIALS . . .

Con-Treat — Combination cleaner and etcher for concrete to be applied before sealer.

Dust-A-Sheen — Emulsion wax base dust mop treatment.

Magic Floor Spray — For treating dust mops, cleaning and polishing of hard floors.

Gym Finish Cleaner and Polish — Solvent cleaner for removal of rubber marks and maintenance of gymnasium floors.

No. 70 Restorer* — Wax base, waterless cleaner and finish for hard floors.

No-Burn Varnish Remover — Non-inflammable remover for paints, varnishes, sealers and finishes. Heavy bodied.

Strip-Fast Stripper — Non-inflammable stripper for paints, varnishes, sealers and finishes. Especially for floors.

Triple Strength Varnish Remover — Semi-paste, inflammable remover. Quick acting. Economical.

Lightning Lustre Wax Base Soap — Combines cleaning and waxing action for all types of floors.

Asphalt Tile Cleaner and Conditioner — Detergent type cleaner for quick and thorough cleaning of all floors. Safe — economical.

Concentrated Cleaner and Conditioner — More highly concentrated Asphalt Tile Cleaner and Conditioner.

Kwick Kleen-Double Concentrate Cleaner — Neutral cleaner in double concentrate form — synthetic detergent with activated action for removal of soap scum, oil, dirt and grease. Safe for all floors.

Wax Kutter — Powerful — Wax Dissolving Action — Will emulsify and soften old wax films, dirt, oil, etc. — Use on any floor.

Line-All — A fast drying latex type gym marking floor enamel. Any of our gym finishes can be put over this paint in 2 hours. Available in 7 colors.

Gym Floor Marking Enamel — Oil based gym floor marking enamel and general purpose enamel. Deep brilliant colors produce a durable glossy finish.

Special Maintenance Products — We will be glad to give personal attention to special floor problems. Your inquiries are invited.

Federal VARNISH DIVISION

ASHLAND AVE. AT 29th ST.
CHICAGO 8, ILLINOIS

FILTER PRESSES (Contd.)

Ertel Engineering Corp., W. Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
F. R. Hormann & Co., 17 Stone St., Newark, N. J.
Hornney & Co., 420 Lexington Ave., N. Y.
Karl Kiefer Machy. Co., 919 Martin St., Cincinnati
Loeb Equipment Supply Co., 810 Superior St., Chicago (used)
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Niagara Filter Corp., East Moline, Ill.
Scientific Filter Co., 59 Rose St., N. Y.
T. Shriver & Co., Harrison, N. J.
Sparkler Mfg. Co., 201 Lake St., Mundelein, Ill.
D. R. Sperry & Co., Batavia, Ill.
United Filters Corps., Hazelton, Pa.
Valley Foundry & Machine Works, Fresno 10, Calif.

FILTER SHEETS, Asbestos

Alsop Engineering Corp., Milldale, Conn.
Ertel Engineering Corp., West Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Hercules Filter Corp., 175 Ethel Ave., Hawthorne, N. J.
F. R. Hormann & Co., 17 Stone St., Newark, N. J.
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.

FILTERS, Clarifying

Alsop Engineering Corp., Milldale, Conn.
Brosities Prods. Corp., 50 Church St., N. Y. 7
Ertel Engineering Corp., W. Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Hercules Filter Corp., 175 Ethel Ave., Hawthorne, N. J.
Karl Kiefer Machy. Co., 923 Martin St., Cincinnati

FIRE EXTINGUISHER FLUID

A-M-R Chemical Co., 985 E. 35th St., Brooklyn 18
American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chemical Service of Baltimore, Howard & West Sts., Balto. 30
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Douglas Chem. Co., 620 E. 16th Ave., North Kan. City, Mo.
Dow Chemical Co., Midland, Mich.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good Co., 2107 Susquehanna Ave., Phila.
R. M. Hollingshead Corp., Camden, N. J.
Michigan Chemical Corp., St. Louis, Mich.
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
Prior Chem. Corp., 420 Lexington Ave., N. Y.
Science Industries, 1509 N. Broadway, St. Louis
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
Uncle Sam Chem. Co., 575 W. 131st St., New York
Westvaco Chlor-Alkali Div., Food Mach. & Chem. Corp., 161 E. 42nd St., N. Y.
Wilco Company, 4425 Bandini Blvd., Los Angeles 23

FIRE EXTINGUISHERS

American La France Foamite Corp., Elmira, N. Y.
Ansul Chemical Co., Fire Extinguisher Div., Marinette, Wisc.
Bridgeport Brass Co., Bridgeport, Conn.
C-O-Two Fire Equipment Co., U. S. Hwy. 1, Newark, N. J.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Walter Kidde & Co., Belleville, N. J.
Pyrene Mfg. Co., Newark, N. J.
Safety Fire Extinguisher Co., 293 7th Ave., N. Y.
D. B. Smith & Co., 414 Main St., Utica, N. Y.
Stop-Fire, Inc., U. S. Highway #1, New Brunswick, N. J.

FIRE-PROOFING COMPOUNDS

Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Atlantic Refining Co., 260 S. Broad St., Phila.
Chem. Service of Balto., Howard & West Sts., Balto. 30
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Dover Chemical Co., Dover, O.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Co., Huntington, Ind.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Industrial Chemicals, Ardsley, N. Y.
Glyco Prods. Co., 350 5th Ave., N. Y. 1
Hysan Prods. Co., 936 W. 38th Place, Chicago
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
Monsanto Chemical Co., St. Louis
Niacet Chemicals Corp., Niagara Falls, N. Y.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2, N. J.
George Stearns Chem. Corp., 4200 E. Mendota St., Madison, Wisc.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Victor Chemical Works, 155 N. Wacker Dr., Chicago
Wilco Co., 4425 Bandini Blvd., Los Angeles 23

FIRE PUMPS (see listings under Fire Extinguishers)

FISH OILS (see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 31st St., Chicago
Atlas Refinery, Lockwood St., Newark, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Murray Oil Products Co., 21 West St., N. Y.
Pacific Vegetable Oil Co., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Place, N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Werner G. Smith, Inc., 1730 Train Ave., Cleveland
Swan Finch Oil Corp., 205 E. 42nd St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

FISH OIL SOAPS

Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Crystal Soap & Chem. Co., 6300 State Rd., Phila.
James Good, Inc., 2107 Susquehanna Ave., Phila.
R. M. Hollingshead Corp., Camden, N. J.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
North Coast Chem. & Soap Works, Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Schaeffer Mfg. Co., 102 Barton St., St. Louis
Silmo Chemical Co., Vineland, N. J.
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.

FLOATING SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods., Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Haskins Bros. & Co., Omaha
Hewitt Soap Co., Dayton, Ohio
Lever Bros. Co., 390 Park Ave., N. Y.
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
Mem Co., 67 Irving Pl., N. Y. 3
Procter & Gamble Distributing Co., Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Standard Soap Co. Div., Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

FLOOR FINISHES (Non-Wax)

Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Baird & McGuire, Holbrook, Mass.
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Butcher Polish Co., 183 Commercial St., Malden, Mass.
Candy & Co., 2515 W. 35th St., Chicago
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Davies-Young Soap Co., Dayton, O.
Dura Wax Co., McHenry, Ill.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Co., Huntington, Ind.
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Federal Varnish Division, S. Ashland Ave. at 29th St., Chicago
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good Co., 2107 Susquehanna Ave., Phila. 25
Haag Laboratories, Inc., 140 St. & Seeley Ave., Blue Island, Ill.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.

FLOOR FINISHES (NON-WAX) (Contd.)

Hysan Prods. Co., 936 W. 38th Place, Chicago
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Magee Chem. Co., 325 Main St., Bensenville, Ill.
Masury Young Co., 76 Roland St., Boston 29
Midland Labs., Dubuque, Iowa
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Oil Specialties & Refining Co., 18 Bridge St., Bklyn.
Old Empire, Inc., Mt. Pros. & Verona, Newark, N. J.
Peck's Products Co., 610 E. Clarence Ave., St. Louis
Sanders Chem. Co., 2205 N. American St., Phila. 33
Simoniz Co., 2100 Indiana Ave., Chicago 16
L. Sonneborn Sons, Inc., 300 4th Ave., N. Y. 10
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. Calif., Chicago 12
Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila. 25
Victory Chem. Co., 148 Fairmount Ave., Phila.
T. F. Washburn Co., 2244 Elston Ave., Chicago
Windsor Wax Co., 611 Newark St., Hoboken, N. J.
G. H. Wood & Co., P. O. Box 34, Toronto, Ont., Canada

FLOOR SCRUB SOAPS (see also Potash Soaps)

Aid Soap Mfg. Co., Rochester, Pa.
American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Banner Chem. Prod. Co., 9 Calumet St., Newark, N. J.
Baum's Castorine Co., Rome, N. Y.
Betco Corp., 830 Elysian Ave., Toledo, O.
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Butcher Polish Co., 183 Commercial St., Malden, Mass.
Candy & Co., 2515 W. 35th St., Chicago
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Continental Industries, Inc., Brazil, Ind.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Dura Wax Co., McHenry, Ill.
Eagle Soap Co., Huntington, Ind.
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Empire Chem. Prods. Co., 10 Longworth, Newark, N. J.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Finnell System, Inc., 500 East St., Elkhart, Ind.
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Hewitt Soap Co., Dayton, O.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hunnewell Soap Co., 114 W. 2nd St., Cincinnati 2
Hysan Prods. Co., 936 W. 38th Place, Chicago
Klix Chem. Co., 551 Railroad Ave., S. San Francisco, Cal.
Knoxall Corp., 1005 E. Sumner Ave., Indianapolis
Kranich Soap Co., 60 Richards St., Brooklyn
Magee Chem. Co., 325 W. Main St., Bensenville, Ill.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
Midland Labs., Dubuque, Iowa
National Chemical Laboratories, 825 Lombard St., Phila.
National Milling & Chemical Co., 4601 Flat Rock Rd., Phila. 27
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
N. Y. Soap Co., 258 Third St., Brooklyn
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Oil Specialties & Ref. Co., 18 Bridge St., Bklyn.
Original Bradford Soap Wks., West Warwick, R. I.
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
Piatt & Smillie Chemicals, 2322 Olive St., St. Louis 3
Procter & Gamble Dist. Co., Cincinnati
Puritan Chem. Co., Atlanta, Ga.
Reilly Chemical Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Schaeffer Mfg. Co., 102 Barton St., St. Louis
I. Schneid, Inc., 916 Ashby St., N.W., Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
E. B. Snyder Labs., 2137 E. Harold St., Phila.
Standard Soap Co., Div., Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago

Are you searching for an honest appraisal to guide you as a private brand distributor

SELF-POLISHING WAXES

Each of Candy's floor waxes are all-around top quality for certain traffic conditions. They impart the finest protection and beauty to floors for which best suited.

CANDY'S SUPREME (standard)
BRIGHT BEAUTY® (standard)
CANDY'S SUPREME Special WR
SUPER CAND-DOX®
CAND-DOX® #CS
CANDI-WAX #6000

All Candy's products are available for private brand resale and are sold only through distributors except for experimental accounts in Chicago essential to research.

Beauty and Durability

Initial appearance is important, but for a waxed surface to remain beautiful, it must be durable. Durability depends not only on resistance to abrasion of traffic, but even more so on resistance to discoloring marks. Durability should be measured by how long the waxed surface maintains a nice appearance before complete removal and re-waxing is required.

Anti-Slip

Anti-slip, or reasonable safety underfoot, does not mean that the qualities of beauty and protection need be sacrificed. The proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not collect dirt readily—gives the performance that answers the foremost original reason for use of a floor wax... beauty and protection.

Water Resistance

Frequent damp mopping or wet traffic can make water resistance very important. Overdoing this quality when no problem exists out of the ordinary, simply increases the difficulty of complete removal or applying multiple coats. Removability must be considered as important as water-resistance under most normal conditions.

Solid Content

The percentage of solid content is not nearly as important as the **quality** of the solids. Good quality indicates 12% of solids as the answer for most well planned maintenance programs. Two applications of 12% gives better results than one of 18%. "Washed out" floors and other special problems maintain better when more concentrated waxes are used. Over-waxing and resultant greater difficulty in removal for periodic maintenance may do more harm than good.

Carnauba Wax

The most important features of a good wax ...all-around quality of performance...are built around Carnauba Wax. When refined and compounded with other additives and scientifically controlled in manufacture, Carnauba alone imparts the beauty and protection that makes the use of floor waxes both profitable and possible. Make-shift manufacture or over-emphasis on any one given wax feature should be avoided and proper care taken to provide for most satisfactory performance.

Other HIGHEST QUALITY wax products by CANDY & COMPANY

Bright Beauty WAX REMOVER & all-purpose SURFACE CLEANER
For removal of water-emulsion waxes from any floor without harmful effects. It is the perfect maintenance program wax remover and all-purpose surface cleaner. Pleasant odor, crystal clear color and thorough cleaning action with all types of equipment. Unaffected by hard freezing. Furnished ready for resale or in concentrated form for local packaging...nothing but water to buy or mix in.

Bright Beauty CREAM FURNITURE POLISH
A cream furniture polish that spreads easily, polishes without excessive effort to a deep impressive lustre. Permits repeated repolishing with a dry cloth, thus saving many re-applications. A very economical polish of the very highest quality.

Bright Beauty PASTE WAX
Properly blended and refined from excellent quality solids and solvents that produce the best drying time and evaporation. Easy to handle, having "creamy" consistency and stability that lasts throughout storage and usage life.

Bright Beauty LIQUID (spirit) PREPARED WAXES
A complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each acts as a "dry cleaner" to keep surfaces waxed protected with a superb coating necessary for many applications such as wood and certain other types of floors; for bars, wallpaper, etc.

Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH
As a Glass Cleaner (pink color) it applies evenly with little effort, wipes off easily with neglible "powdering" and produces an undeniable "feel" of cleanness to glass. Different in color only as a Silver Polish, it polishes to a high lustre *without* abrasion and can even correct the abuses of carelessly- "quick-polish" inferior products.

Bright Beauty DANCE FLOOR WAX
Does not "ball-up" and gather dirt that impregnates floors with hard spots difficult to remove...free from dusty effects. Its protective quality adds more "floor-years" to expensive ballroom floors.

Bright Beauty Heavy Duty PASTE CLEANER
Cleans and scours more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive qualities, it frees almost every surface from all foreign matter.

CONTAINER SILK SCREEN LABELING
Now you can have dramatic, colorful labeling of your private brand name on all 55, 35, 30, 20 & 15 gal. drums and 5 gal. pails. This added service is accomplished right in our plant...your inspection invited...or write for details.

Wax Specialists for over 65 years

Candy & Company, Inc.

2515 W. 35th ST., CHICAGO

FLOOR SCRUB SOAPS (Contd.)

Theobald Industries, P. O. Box 72, Harrison, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn. 6
Sprayway, Inc., 7638 Vincennes Ave., Chicago 20
Twi-Laq Chemical Co., 76 Grand Ave., Bklyn.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. Calif., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila. 25
T. F. Washburn Co., 2244 Elston Ave., Chicago
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Windsor Wax Co., 611 Newark St., Hoboken, N. J.
Wolf Soap Co., 254 Sheffield Ave., Bklyn.
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

FLOOR SEALERS (see Sealers)

FLOOR WAX APPLICATORS (see Applicators)

FLOOR WAXES

Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Banner Chemical Products Co., 9 Calumet St., Newark 5, N. J.
Baird & McGuire, Inc., Holbrook, Mass.
Betco Corp., 830 Elysian Ave., Toledo 7
Buckingham Wax Corp., Van Dam St. & Borden Ave., L. I. City, N. Y.
Butcher Polish Co., 183 Commercial St., Malden, Mass.
Candy & Co., 2515 W. 35th St., Chicago
Cato Chemical Co., 116 S. York St., Elmhurst, Ill.
Chemical Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 Throop St., Chicago
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Continental Industries, Inc., Brazil, Ind.
Crystal Soap & Chemicals Co., 6300 State Rd., Phila.
Davies-Young Soap Co., Dayton, O.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Dura Wax Co., McHenry, Ill.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Co., Huntington, Ind.
Empire Chemical Prods. Co., 10 Longworth St., Newark, N. J.
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Federal Varnish Division, S. Ashland Ave. at 29th St., Chicago
Finnell System, Inc., 500 East St., Elkhart, Ind.
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila.
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
S. C. Johnson & Son, 1525 Howe St., Racine, Wisc.
Klix Chem. Co., 551 Railroad Ave., S. San Francisco, Cal.
Magee Chem. Co., 325 W. Main St., Bensenville, Ill.
National Chem. Laboratories, 825 Lombard St., Phila.
Majestic Wax Co., 2139 Blake St., Denver, Colo.
Midland Labs., Dubuque, Iowa
M. & H. Laboratories, 2703 Archer Ave., Chicago
Masury Young Co., 76 Roland St., Boston 29
National Laboratories, Inc., 4934 Lewis Ave., Toledo 0.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Oil Specialties & Refining Co., 18 Bridge St., Bklyn.
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Peck's Prods., 610 E. Clarence Ave., St. Louis
Pennsylvania Refining Co., Butler, Pa.
Perrow Chemical Co., Hurt, Va.
Piatt & Smillie Chems., 2322 Olive., St. Louis 3
Reily Chem. Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
Sander Chem. Co., 2205 N. American St., Phila. 33
Schaeffer Mfg. Co., 102 Barton St., St. Louis
I. Schneid, Inc., 916 Ashby St., Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
H. V. Smith & Co., 1910 Univ. Ave., St. Paul, Minn.
Simoniz Co., 2100 Indiana Ave., Chicago 16
E. B. Snyder Labs., 2137 E. Harold St., Phila.
John C. Stalfort & Sons, 319 W. Pratt St., Baltimore
John T. Stanley Co., 642 W. 30th St., N. Y.
H. F. Staples Co., Medford, Mass.
Tesco Chemicals, Inc., Atlanta 5, Ga.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Twi-Laq Chemical Co., 76 Grand Ave., Brooklyn
Twin City Shellac Co., 340 Flushing Ave., Brooklyn
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

FLOOR WAXES (Contd.)

Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila. 25
T. F. Washburn Co., 2244 Elston Ave., Chicago
Wilco Co., 4425 Bandinni Blvd., Los Angeles
Windsor Wax Co., Inc., 611 Newark St., Hoboken, N. J.
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

FLOOR WAXES, Germicidal

Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Trio Chemical Works, Inc., 341 Scholes St., Brooklyn

FLOOR WAXES, Insecticidal

Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Chemical Service Co. of Baltimore, Howard & West Sts., Baltimore
Continental Industries, Inc., Brazil, Ind.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Franklin Research Co., 5124 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Pl., Chicago
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Veneer-O-Wax Corp., 2010-12 Fletcher St., Phila. 25
Windsor Wax Co., 611 Newark St., Hoboken, N. J.

FLUORIDES (see also Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
American Fluoride Corp., 151 W. 19th St., N. Y.
Blockson Chemical Co., Joliet, Ill.
California Spray-Chemical Corp., Richmond, Calif.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 97th St., Cleveland
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Merck & Co., Rahway, N. J.
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Pfaltz & Bauer, 350 Fifth Ave., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

FLYPAPER and RIBBONS

Aeroxon Sales Co., 9 E. 38th St., N. Y.
Tanglefoot Co., 314 Straight Ave., S.W., Grand Rapids, Mich.
R. E. Tongue & Bro., Allegheny and Amber Sts., Phila.

FLY SPRAYS (see Insecticides, Household and Industrial)

FOAMING AGENTS (see Detergents, Synthetic; also Surface Active Agents)

FOGGING EQUIPMENT (See Sprayers, Fogging)

FOIL, Plain Metal

Aluminum Co. of America, Pittsburgh, Pa.
Cochran Foil Co., Louisville, Ky.
Fisher's Foils Ltd., Wembley, Middlesex, England
Johnson Foil Mfg. Co., South Broadway, St. Louis 11
Kaiser Aluminum & Chem. Sales, Oakland, Calif.
Republic Foil & Metal Mills, Danbury, Conn.
Reynolds Metals Co., Louisville, Ky.
Stranahan Foil Co., So. Hackensack, N. J.

FOIL, Printed and Decorated

Alufoil Prods. Co., 15 Ferry St., New York
Crown Zellerbach Corp., San Leandro, Calif.
Fisher's Foils Ltd., Wembley, Middlesex, England
Lachman-Novasel Paper Corp., 109 Greene St., N. Y.
Marathon Corp., Menasha, Wisc.
Milprint, Inc., Milwaukee 1, Wisc.
Reynolds Metals Co., Louisville, Ky.
Western Foil Co., 3010 38th Ave., Seattle, Wash.

FORMALDEHYDE (see also Brokers and Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Celanese Corp. of America, 180 Madison Ave., N. Y.
Cliffs-Dow Chem. Co., Marquette, Mich.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 16
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Mallinckrodt Chemical Work, St. Louis, Mo.
Merck & Co., Rahway, N. J.
Nitrogen Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Solvay Process Div., Allied Chemicals & Dye Corp., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.

FORMULATIONS, Private Brand (see listings under individual headings)

FRAMES (Soap)

Houchin Machinery Co., Hawthorne, N. J.
Littleford Bros., 451 E. Pearl St., Cincinnati
Loeb Equipment Supply Co., 810 Superior St., Chicago (used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago

"FREON" (Fluorinated Hydrocarbon Propellant)

Kinetic Chemical Div., E. I. du Pont de Nemours & Co., Wilmington

FULLERS EARTH

Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Filtrol Corp., 3250 E. Washington Blvd., Los Angeles
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Minerals & Chemicals Corp. of America, Menlo Park, N. J.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Tamms Industries, Inc., 228 N. La Salle St., Chicago
United Clay Mines Corp., 101 Oakland St., Trenton, N. J.
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Welch, Holme & Clark Co., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.

FUMIGANTS, SOIL (see Soil Fumigants)

FUMIGANTS (Cyanides, Chlorpicrin, Methyl Bromide, etc.)

American-British Chem. Supplies, 180 Madison Ave., N. Y.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles, Calif.
Calif. Spray-Chemical Corp., Richmond, Calif.
Carbide & Carbon Chems Co., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Agricultural Chemicals, Ardsley, N. Y.
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Jefferson Chem. Co., Box 303, Houston, Tex.
Koppers Co., Chamber Commerce Bldg., Pittsburgh 19
Larvacide Products Co., 117 Liberty St., N. Y.
Michigan Chem. Corp., St. Louis, Mich.
Monsanto Chem. Co., St. Louis
Residex Corp., Foot of Centre St., Newark, N. J.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Philadelphia
Shell Chem. Corp., 50 W. 50th St., N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Westvaco Chlor-Alkali Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

GAUGES (see Instruments)

"GENETRON," Aerosol Propellant

General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.

GERANIOL (see Aromatic Chemicals)

GERANIUM OIL (see Essential Oils)

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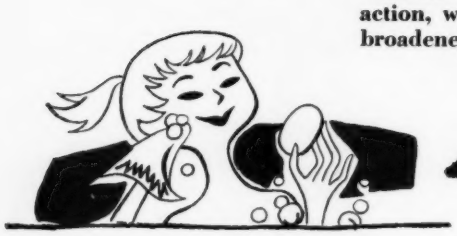
(HEXACHLOROPHENE U.S.P.)

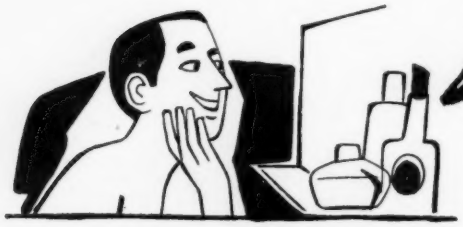
with its unique degerming and antiseptic action, was the key to increased sales and broadened markets *for all these products:*



SOAPS

Waterless Hand Cleaners
Detergents
Shampoos

Deodorant
Antiseptic
Surgical Scrub
Medicated



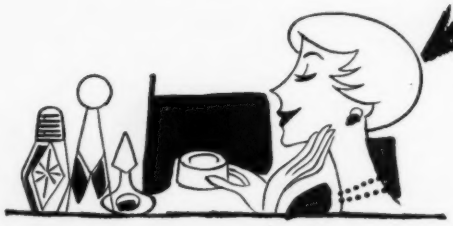
PHARMACEUTICALS

Antiseptic Ointments
Diaper Rash Preparations
Instrument Sterilization
Bandages
Surgical Dressings
Vaginal Preparations
Antipruritics
Protective Hand Creams
Corn Ointments

COSMETICS

Deodorant Creams
Deodorant Sticks
Deodorant Colognes
Deodorant Powder
Anti-perspirants
Baby Lotions
Baby Powders
Hand Lotions
Face Creams
Shampoos

Acne Lotions
Menthol Lotions and Ointments
Anti-infectives
Surgical Rubber Goods
Lip Pomades
Aerosol Foot Sprays



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Skin Conditioners
Dusting Powders
Hair Dressings
Antiseptic Creams
Aftershave Lotions

SINDAR® *Corporation*
Industrial Aromatics and Chemicals
330 West 42nd Street, New York 36, New York

GERANYL ACETATE (see Aromatic Chemicals)

GERMICIDES (for Soap, Etc.)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
Armour Chem. Div., 1355 W. 31st St., Chicago
Dow Chem. Co., Midland, Mich.
Fleetwood Prods. Co., 509 5th Ave., N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Olin Mathieson Chem. Corp., Baltimore 3
Onyx Oil & Chem Co., Warren & Morris Sts., Jersey City, N. J.
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.
Monsanto Chem. Co., St. Louis 4
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Sindar Corp., 330 W. 42nd St., N. Y. 18
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
R. T. Vanderbilt Co., 230 Park Ave., N. Y. 17

GLASS BOTTLES and JARS (see Bottles)

GLASS and WINDSHIELD CLEANERS

Baird & McGuire, Inc., Holbrook, Mass.
Chemical Service of Baltimore, Howard & West Sts., Balto. 30
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Davies-Young Soap Co., Dayton 1, O.
Drackett Co., 5020 Spring Grove, Cincinnati 32
Eagle Soap Co., Huntington, Ind.
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Franklin Research Co., 5134 Lancaster Ave., Phila. 31
Fuld Bros., 702 S. Wolfe St., Baltimore
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, 140th St. & Seeley Ave., Blue Island, Ill.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Masury Young Co., 76 Roland St., Boston 29
M. Michel & Co., 90 Broad St., N. Y.
Midland Labs., Dubuque, Ia.
M. & H. Laboratories, 2703-5 Archer Ave., Chicago
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Science Industries, 1509 N. Broadway, St. Louis
I. Schneid, Inc., 916 Ashby St., Atlanta, Ga.
Slick-Shine Co., 207-15 Astor St., Newark, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Phila.
John T. Stanley Co., 642 W. 30th St., N. Y.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Spec. Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010-12 Fletcher St., Phila.
Warsaw Chem. Co., Warsaw, Ind.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23

GLUCONIC ACID

Dawe's Laboratories, 4800 S. Richmond St., Chicago 32
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6

GLYCERINE (Refined)

Acme-Hardesty Co., 60 E. 42nd St., N. Y. C.
Archer-Daniels-Midland Co., Minneapolis 2
Dow Chem. Co., Midland, Mich.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
A. Gross & Co., 295 Madison Ave., N. Y.
Harchem Div., Wallace & Tiernan, Inc., Box 178, Newark, N. J.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Lever Bros. Co., 390 Park Ave., N. Y.
Los Angeles Soap Co., Los Angeles, Calif.
Procter & Gamble Distributing Co., Cincinnati
Robeco Chemicals, Inc., 24 E. 26th St., N. Y.
Shell Chemical Corp., 50 W. 50th St., N. Y. 18
Swift & Co., Industrial Oil Dept., Hammond, Ind.

GLYCERINE PLANTS AND EQUIPMENT

Swenson Evaporator Co., Harvey, Ill.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

GLYCERYL MONOSTEARATE, Oleate, Etc.

Armour & Co., 1355 W. 31st St., Chicago
Archer-Daniels-Midland Co., Minneapolis, Minn.
Atlas Powder Co., Wilmington 99, Dela.
Baker Castor Oil Co., 120 Broadway, N. Y. 5
Carlisle Chemical Works, Reading, O.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Foremost Food & Chem. Co., El Dorado Div., Oakland, Calif.
Emery Industries, Inc., Carew Tower, Cincinnati
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
Glyco Products Co., 350 5th Ave., N. Y.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 20
Kessler Chemical Co., State Rd. & Cottman Ave., Phila.
Knapp Prods., Inc., Lodi, N. J.
Marchon Prods. Ltd., Whitehaven, Cumberland, Eng.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Van Dyk & Co., Belleville, N. J.

GLYCOL SPRAYS (Aerosol type for use as deodorizers and sanitizers, ready packaged)

Baird & McGuire, Inc., Holbrook, Mass.
Bridgeport Brass Co., Bridgeport, Conn.
Chase Prods. Co., 1816 St. Charles Rd., Maywood, Ill.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chemical Service of Balto., Howard & West Sts., Balto.
Columbia Chemical Co., 154 E. Erie St., Chicago 11
Conn. Chem. Research Corp., Bridgeport 5, Conn.
Continental Filling Corp., 123 N. Hazel St., Danville, Ill.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Products Co., 936 W. 38th Place, Chicago
Orb Industries, Wallingford Rd., Media, Pa.
Science Industries, 1509 N. Broadway, St. Louis
Sprayway, Inc., 7638 Vincennes Ave., Chicago 20
James Varley & Sons, 1200 Switzer Ave., St. Louis
Williams Chem. Co., 487 Broadway, N. Y. 13

GLYCOLS

Air Reduction Chem. Co., 60 E. 42nd St., N. Y. 17
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo, N. Y.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Carlisle Chem. Wks., 510 Reading Rd., Reading, O.
Central Sols. & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Solvents & Chems. Co., Dixie Highway at Appleton, Louisville, Ky.
Dow Chemical Co., Midland, Mich.
General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Glyco Products Co., 350 5th Ave., N. Y.
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis, Ind.
Jefferson Chemical Co., Box 303, Houston, Tex.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis
Nitrogen Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland
Olin Mathieson Chem. Corp., Baltimore 3
Shell Chemical Corp., 50 W. 50th St., N. Y.
Southern Solvents & Chemicals Co., 917 Jefferson Highway, New Orleans
Texas Solvents & Chemicals Co., 8501 Market St., Houston, Tex.
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Van Dyk & Co., 11 Williams St., Belleville, N. J.
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee, Wisc.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave. S.W., Grand Rapids, Mich.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

GOGGLES (see Gas Masks, etc.)

GRANULATED SOAPS (see list under Laundry Soaps; Chip Soap)

GREASE ABSORBENTS (for floors, etc.)

Ampion Corp., 4-48 47th Ave., L. I. C., N. Y.
Atlantic Refining Co., 260 S. Broad St., Phila.
Chemical Service Co. of Baltimore, Howard & West Sts., Balto.
Diamond Head Oil Ref. Co., 1401 Harrison Tpke, Kearny, N. J.
Dri-Rite Co., 100 W. Chicago Ave., Chicago 10
Eagle Picher Lead Co., Am. Bldg., Cincinnati, O.

Repeat PROFITS

● Pax products assure repeat sales. Whatever your needs in the cleaning product line you can depend on Pax for added profits, safety, quality and efficiency. Pax dependable quality for over 30 years assures you of repeated customer satisfaction.

GRANULATED SKIN CLEANSERS
Pax Lano-Sav Heavy Duty & Other Fine Quality Granulated Skin Cleansers for Home, Office & Industry.

Carry the complete line for
MAXIMUM PROFITS!

PAX LANO-SAV IN HANDY DISPENSER CANS

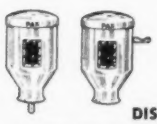
CREAM & LIQUID SOAPS

all purpose HAND CLEANSING CREAM

LOTIONS
• Lanolin • Silicone

WATERLESS SKIN CLEANERS
Pharmaceutical Grade
Extra Heavy Duty

MAINTENANCE & METAL CLEANERS



DISPENSERS
TYPES FO & FP

NEW C-P DISPENSER

Suppliers of
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57-B

G. H. PACKWOOD MANUFACTURING COMPANY
Manufacturing Chemists
1563 TOWER GROVE AVENUE • ST. LOUIS 10, MO.

LOOK FOR THE PAX ROOSTER — YOUR ASSURANCE OF SUPERIOR QUALITY

GREASE ABSORBENTS (Contd.)

Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Fuld Bros., 702 S. Wolfe St., Baltimore, Md.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Pl., Chicago 9
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
Frank Miller & Sons, 2250 W. 58th St., Chicago
Minerals & Chemicals Corp. of America, Menlo Park, N. J.
Oil-Dri Corp., 520 N. Michigan Ave., Chicago 11
Old Empire Inc., Mt. Prospect & Verona Aves., Newark, N. J.
James H. Rhodes & Co., 157 W. Hubbard St., Chicago 10
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
Waverly Petroleum Prods. Co., 1724 Chestnut St., Philadelphia
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

GREASES (see Tallow)

GREEN SOAP (see Potash Soap)

GRINDING MACHINERY (for milling, pulverizing, etc.)

American Pulverizer Co., 18th & Austin Sts., St. Louis
J. H. Day Co., Cincinnati 12
Gruendler Patent Crusher & Pulverizer Co., 900 N. First St., St. Louis
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Houchin Machy. Co., Hawthorne, N. J.
Kent Machine Works, 39 Gold St., Brooklyn
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Poulsen Co., 5957 W. 3rd St., Los Angeles 6
Pulverizing Machinery Co., Chatham Rd., Summit, N. J.
Rapids Machinery Co., Marion, Iowa
Raymond Pulverizing Div., 1314 N. Branch St., Chicago
Chas. Ross & Sons, 148 Classon Ave., Brooklyn
Sprout, Waldron & Co., Muncy, Pa.
Sturtevant Mill Co., Dorchester, Boston 22
Troy Engine & Mach. Co., Troy, Pa.
U. S. Stoneware Co., Akron 9, O.
Williams Patent Crusher & Pulverizer Co., 2700 N. 9th St., St. Louis
Young Machy. Co., Muncy, Pa.

GUMS (oil, spirit soluble; varnish gums) Copal, Congo, Manila, Dammar, etc.)

Archer-Daniels-Midland Co., Minneapolis 2
Wm. Diehl & Co., 114 E. 56th St., N. Y. C.
Gillespie-Rogers-Pyatt Co., 75 West St., N. Y. 16
O. G. Innes Corp., 82 Wall St., N. Y. 5
Meer Corp., 318 W. 46th St., N. Y. 36
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Thurston & Braidich, 286 Spring St., N. Y. 13
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Wm. H. Scheel, Inc., 38 Franklin St., Bklyn. 22

GUMS (Water soluble) Arabic, Karaya, Tragacanth, etc.

Dodwell & Co., 120 Wall St., N. Y. 5
Paul A. Dunkel & Co., 26 Journal Sq., Jersey City, N. J.
Hercules Powder Co., 961 Market St., Wilmington
S. B. Penick & Co., 50 Church St., N. Y. 7
Meer Corp., 318 W. 46th St., N. Y. 36
Orbis Products Corp., 601 W. 26th St., N. Y. 1
F. H. Paul & Stein Bros. Inc., 235 Fifth Ave., N. Y.
S. B. Penick & Co., 50 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Seaplant Chem. Corp., 63 David St., New Bedford, Mass.
Stein, Hall & Co., 285 Madison Ave., N. Y.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Thurston & Braidich, 286 Spring St., N. Y. 13
Walter H. Jelly & Co., 420 N. Western Ave., Chicago 12
Tragacanth Importing Corp., 160 Water St., N. Y. 38
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

GYM-FINISH FLOOR SEAL (see Sealers, Floor)

HAND CLEANERS (Powdered, Waterless, etc.)

Aid Soap Mfg. Co., Rochester, Pa.
Banner Chemical Prods. Co., 9 Calumet St., Newark 5, N. J.
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.

HAND CLEANERS (Contd.)

Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago 8
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Crystal Soap & Chem. Co., 6300 State Rd., Phila.
Dameron Enterprises, 427 S. 20th St., Louisville, Ky.
Davies-Young Soap Co., Dayton 1, O.
Essential Chems. Co., 5906 N. Port Washington Ave., Milwaukee
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Frontier Chem. Prods. Co., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore 3
Gojer, Inc., 144 Cuyahoga, Akron, O.
Haag Laboratories, 140th St. & Seeley Ave., Blue Island, Ill.
Hammons Prods., Inc., 1141 Wildwood Ave., Ft. Wayne, Ind.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
Kutol Products Co., 2817 Highland Ave., Cincinnati
R. G. Liner Co., Canton, N. C.
M & H Laboratories, 2705 Archer Ave., Chicago 8
Mione Manufacturing Co., Collingdale, Pa.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Old Empire, Inc., 865 Mt. Prospect Ave., Newark, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
Ottawa Chem. Co., 823 Hamilton St., Toledo 7
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
J. C. Paul & Co., 8140 N. Ridgeway Ave., Stokie, Ill.
Peck's Products Co., 610 E. Clarence Ave., St. Louis 15
Pharmco, Inc., 22292 Lakeland Blvd., Cleveland 23
Radium Hand Soap Co., 2121 N. 35th St., Seattle, Wash.
S & E Chem. Co., 1751 N. Harding Ave., Chicago
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Slick-Shine Co., 207-15 Astor St., Newark, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Standard Soap Co. Div., Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Sugar Beet Prods. Co., Saginaw, Mich.
Surety Laboratories, 3946 Olive St., St. Louis 8
Theobald Industries, P. O. Box 72, Harrison, N. J.
Trio Chemical Wks., 341 Scholes St., Brooklyn 6
Utility Co., 636 W. 44th St., N. Y. 26
Warsaw Chem. Co., Warsaw, Ind.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila.

HAND CREAMS, (Protective)

Baird & McGuire, Inc., Holbrook, Mass.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Chase Chemical Co., 1372 E. 170th St., Cleveland
Davies Young Soap Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore 3
E. I. du Pont de Nemours Co., Wilmington, Dela.
Hammons Prods., Inc., 1141 W. Wildwood Ave., Ft. Wayne, Ind.
R. M. Hollingshead Corp., Camden, N. Y.
Hysan Products Co., 936 W. 38th Pl., Chicago
Kutol Prods. Co., 2817 Highland Ave., Cincinnati
Old Empire, Inc., Mt. Prospect & Verona, Newark, N. J.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
Pharmco, Inc., 22292 Lakeland Blvd., Cleveland 23
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
John T. Stanley Co., 642 W. 30th St., N. Y.
S & E Chem. Co., 1751 N. Harding Ave., Chicago
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Utility Co., 636 W. 44th St., N. Y. 36

HAND DRYERS, ELECTRIC (see Dryers, Hand)

HAND SOAP, LIQUID (see Potash Soaps)

HAND SOAP (Mechanic's Hand Paste)

Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-48 47th Ave., L. I. C., N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago 9
Boston Chemical Industries, 64 E. Brookline St., Boston 18
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Crystal Chem. Co., 823 Hunterdon St., Newark 8, N. J.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Dameron Enterprises, 427 S. 20th St., Louisville, Ky.
Davies Young Soap Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Frontier Chemical Co., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
Gojer, Inc., 144 Cuyahoga St., Akron, O.
Hammons Products, Inc., 1141 W. Wildwood Ave., Fort Wayne 2, Ind.
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., Dayton, O.
R. M. Hollingshead Co., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
J. Chemical Works, 602 W. 37th St., N. Y. 18
Kutol Products Co., 2817 Highland Ave., Cincinnati
Los Angeles Soap Co., 617 E. First St., Los Angeles
Mione Mfg. Co., Collingdale, Pa.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 29
National Sanitary Prods., 3944 Olive St., St. Louis
North Coast Soap & Chem. Wks., Seattle, Wash.
Oil Kratt, Inc., 3330 Beekman St., Cincinnati
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis, Mo.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
S & E Chemical Co., 1751 N. Harding Ave., Chicago
Radium Hand Soap Co., 2121 N. 35th St., Seattle, Wash.
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Science Industries, 1509 N. Broadway, St. Louis
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Slick-Shine Co., 207-15 Astor St., Newark, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Stewart-Hall Chem. Corp., P. O. Box 66, Mt. Vernon, N. Y.
Sugar Beet Prods. Co., Saginaw, Mich.
Surety Laboratories, 3946 Olive St., St. Louis 8
Swift & Co., Chicago
Tesco Chemicals, Inc., Atlanta 5, Ga.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Sprayway, Inc., 7638 Vincennes Ave., Chicago 20
U. S. Sanitary Spec. Corp., 1001 S. Calif., Chicago 12
Utility Co., 636 W. 44th St., N. Y.
Veneer-O-Wax Corp., 2010-12 Fletcher St., Phila.
Vliet Soap Co., 638 Monroe St., Brooklyn
Warsaw Chem. Co., Warsaw, Ind.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8

HAND SOAP, Powdered

Ampion Corp., 4-48 47th Ave., L. I. C., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Banner Chem. Prods. Co., 9 Calumet St., Newark, N. J.
Britex Corp., 17 Lewis Wharf, Boston 10
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Crystal Chem. Co., 823 Hunterdon St., Newark, N. J.
Crystal Soap & Chem Co., 6300 State Rd., Phila.
Dameron Enterprises, 4275 20th St., Louisville, Ky.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eagle Soap Co., Huntington, Ind.
East Coast Soap Corp., 89 Coffey St., Bklyn.
Essential Chemicals, 5906 N. Port Washington Rd., Milwaukee
Finnell System, Inc., 500 East St., Elkhart, Ind.
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
Hammons Prods., Inc., 1141 W. Wildwood Ave., Ft. Wayne, Ind.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Kutol Products Co., 2817 Highland Ave., Cincinnati
Lightfoot Schultz Co., Hoboken, N. J.
R. G. Liner Co., Canton, N. C.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles 51
Midland Laboratories, Dubuque, Iowa
M. & H. Laboratories, 2705 Archer Ave., Chicago
Mione Mfg. Co., Collingdale, Penna.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
New Jersey Chem. Co., Lyndhurst, N. J.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Dist. Co., Cincinnati

Radium Hand Soap Co., 2121 N. 35th St., Seattle, Wash.
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Sander Chem. Co., 2205 N. American St., Phila. 33
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
I. Schneid, Inc., 916 Ashby St., NW, Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Sugar Beet Prods. Co., Saginaw, Mich.
Tesco Chemicals, Inc., Atlanta 5, Ga.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Trio Chem. Wks., 341 Scholes St., Bklyn.
The Utility Co., 636-642 W. 44th St., N. Y. 26
U. S. Borax & Chem. Corp., 100 Park Ave., N. Y. 17
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Warren Soap Mfg. Co., Cambridge, Mass.
Warsaw Chem. Co., Warsaw, Ind.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago
Zeen Chemical Co., 2000 Elm St., Cleveland

HARD WATER SOAPS (Salt Water Soaps)

Aid Soap Mfg. Co., Rochester, Pa.
Chemical Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
James Counts Soap Co., 2nd & Washington Aves., St. Louis
Cudahy Packing Co., 221 N. LaSalle St., Chicago
J. Eavenson & Sons, Camden, N. J.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
James Good, Inc., 2107 Susquehanna Ave., Phila.
Harley Soap Co., Pierce & Orthodox Sts., Phila., Pa.
Haskins Bros. & Co., Omaha, Neb.
Hewitt Soap Co., Dayton, O.
Higley Chemical Co., Dubuque, Iowa
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Works, Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
John T. Stanley Co., 642 W. 30th St., N. Y.
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Swift & Co., Union Stock Yards, Chicago
Theobald Industries, P. O. Box 72, Harrison, N. J.
Vliet Soap Co., 638 Monroe St., Brooklyn
Warren Soap Mfg. Co., Brighton, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.

HEPTACHLOR (Technical)

Velsicol Corp., 330 E. Grand Ave., Chicago

HEPTACHLOR FORMULATIONS

Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Douglas Chem. Co., 620 E. 16th Ave., North Kan. City, Mo.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chem. Div., Allied Dye & Chem. Corp., 40 Rector St., N. Y. 6
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
S. B. Penick & Co., 50 Church St., N. Y. 8
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Residex Corp., foot of Centre St., Newark, N. J.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Velsicol Corp., 330 E. Grand Ave., Chicago

HEXACHLOROPHENE

Sindar Corp., 330 W. 42nd St., N. Y. 18

HEXAETHYL TETRAPHOSPHATE

American Potash & Chem. Co., 5060 W. 6th St., Los Angeles
California Spray-Chemical Corp., Richmond, Calif.
Eastman Chemical Products, Inc., Kingsport, Tenn.
Geigy Agric. Chems., Ardsley, N. Y.
Monsanto Chemical Co., St. Louis
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.
Victor Chemical Works, 155 N. Wacker Dr., Chicago
Westvaco Mineral Prods. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y. 17

FOR THE MANUFACTURER...

Aerosol

"Pyrocide" Aerosol Mixes—Complete Mixes —Our tested recommended formulas, or formulas tailor-made to your specifications. You add propellant. Chilled and filtered to hold at —20°F. without precipitation. Special formulas to meet military and government specifications.

Partial Mixes —Require a minimum of processing. Contain pyrethrins, allethrin and synergists.

"Pyrocide" 175 —Contains 20% pyrethrins, stabilized—guaranteed less than 1% propellant insolubles—dewaxed. A "must" in aerosols.

MGK Allethrin —Purest form of allethrin commercially available. Offered in several convenient concentrations.

Fly and Roach Sprays

"Pyrocide" Booster Concentrates —For low cost, Grade AA sprays. Combinations of pyrethrins, allethrin, or both, with synergists and other toxicants such as DDT, methoxychlor, lindane, etc. There are Booster Concentrates for specific purposes, such as industrial sprays, cattle sprays and mechanical aerosols.

"Pyrocide" 20 —For odorless household sprays and non-poisonous sprays for food processing plants. Contains 2 grams pyrethrins per 100 cc. The original standardized pyrethrum extract. Deodorized and clarified. Dilutes brilliantly clear in any base oil.

MGK Allethrin Concentrates —Standardized at 90%, 20% and 2.5% allethrin content. A fine new insecticide toxicant. Fast knockdown. High kill.

Synergist MGK "264"

Synergist MGK "264" —The ideal synergist for pyrethrum and allethrin sprays. Superior with either pyrethrum or allethrin, but especially effective with allethrin. Greatly improves roach kill. "264" reduces costs—increases profits. Accepted for use by the United States Military Forces.

Agriculture

Dry "Pyrocide" —A dry concentrate for use in making non-poisonous dusts effective against many pests attacking food crops. Contains 2.2% pyrethrins. Highly recommended for late application on vegetables. No poisonous residue.

"Pyrocide" Emulsion Concentrate (Ever Green) —For repacking as garden spray. Leaves no poisonous residue.

Established in 1902, MGK has pioneered insecticide concentrates featuring Pyrethrins and Allethrin. Write for information and prices.

McLAUGHLIN• GORMLEY• KING COMPANY

Better Insecticides

MINNEAPOLIS, MINNESOTA

HOMOGENIZERS (Dispersion Equipment) (see also Colloid Mills)

Abbe Engineering Co., Little Falls, N. J.
Gifford Wood Co., 420 Lexington Ave., N. Y.
Kinetic Dispersion Corp., 95 Botsford Pl., Buffalo, N. Y.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Manton Gaulin Mfg. Co., Everett, Mass.
Mecchaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Morehouse-Cowles, Inc., 1150 San Fernando Rd., Los Angeles
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (used)
Read Standard Corp., York, Pa.
U. S. Stoneware Co., Akron 9, O.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

HOUSEHOLD AMMONIA (prepared, in bulk and private brand)

A-M-R Chem. Co., 985 E. 35th St., Brooklyn 10
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila. 25
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
J. L. Prescott Co., 27 8th St., Passaic, N. J.
Science Industries, 1509 N. Broadway, St. Louis
John T. Stanley Co., Inc., 642 W. 30th St., N. Y.
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City

HYDRAZINE and SALTS

Fairmount Chem. Co., 600 Ferry St., Newark 5, N. J.
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Merck & Co., Rahway, N. J.
Metalectro Corp., Laurel, Md.
Olin Mathieson Chem. Corp., Baltimore 3

HYDROGENATED OILS

Armour & Co., 1355 W. 31st St., Chicago
Archer-Daniels-Midland Co., Minneapolis 2
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Ridgefield, N. J.
Emery Industries, 4300 Carew Tower, Cincinnati
Harchem Div., Wallace & Tiernan, Inc., Box 178, Newark, N. J.
Procter & Gamble Dist. Co., Cincinnati
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.

HYDROGENATION PLANTS (see Oil Hydrogenation Plants)

HYDROXYETHYL CELLULOSE

Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Dow Chem. Co., Midland, Mich.
Hercules Powder Co., 961 Market St., Wilmington, Dela.

HYDROSULFITES (Soap Bleaches)

Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
General Chem., Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Monsanto Chem. Co., St. Louis
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Royce Chem. Co., Carlton Hill, N. J.
Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

HYPOCHLORITES (see Chlorine) (see Laundry Bleach)

IMPRINTING MACHINES (see Marking Machines)

INSECT POWDER GUNS (see Dusters for Insecticide Powder)

INSECT REPELLENTS

A-M-R Chemical Co., 985 E. 35th St., Brooklyn 10
Baird & McGuire, Inc., Holbrook, Mass.
Bridgeport Brass Co., Bridgeport 2, Conn.
California Spray-Chemical Corp., Richmond, Calif.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Chase Prods. Co., 1816 Charles Rd., Maywood, Ill.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Connecticut Chem. Research Corp., Bridgeport, Conn.
Crystal Soap & Chem. Co., 6300 State Rd., Phila.
Dow Chemical Co., Midland, Mich.
Eagle Soap Co., Huntington, Ind.
Fairfield Chem. Div., 441 Lexington Ave., N. Y.
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Hysan Products Co., 936 W. 38th Pl., Chicago
Koppers Co., Chamber of Commerce Bldg., Pittsburgh 19
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
Michigan Chem. Corp., St. Louis, Mich.
Midland Laboratories, Dubuque, Iowa
Monsanto Chemical Co., St. Louis 4
Old Empire Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Puro Co., 2801 Locust St., St. Louis
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Sprayway, Inc., 7638 Vincennes Ave., Chicago
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville, N. J.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23

INSECTICIDAL SMOKES

American Nexa Corp., 342 Madison Ave., N. Y.
Continental Chemiste Coup., 2256 W. Ogden Ave., Chicago
Lindavap, Inc., 2175 W. Stadium Blvd., Ann Arbor, Mich.

INSECTICIDE BASE OILS (Petroleum Bases for Household, Cattle and other Insect Oil Sprays, Polishes, etc.)

Amoco Chemicals Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Anderson-Prichard Oil Corp., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Beacon Oil Co., Everett, Mass.
Buffalo Solvents & Chems. Corp., P. O. #73, Sta. B, Buffalo, N. Y.
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Gulf Oil Co., Gulf Bldg., Pittsburgh
Hoosier Solvents & Chems. Corp., 1650 Luett St., Indianapolis
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Pennsylvania Refining Co., Butler, Pa.
Missouri Solvents & Chems. Co., 419 DeSoto, St. Louis
Shell Oil Co., 50 W. 50th St., N. Y. 20
Sherwood Refining Co., Englewood, N. J.
Sinclair Chemicals, Inc., 630 Fifth Ave., N. Y.
Skelly Oil Co., Skelly Bldg., Kansas City, Mo.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Sun Oil Co., 1608 Walnut St., Philadelphia
Texas Co., 135 E. 42nd St., N. Y.
Texas Solvents & Chem. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Jos. Turner & Co., Ridgefield, N. J.
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chem. Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solvents & Chems. Co., 2940 Stafford Ave. S.W., Grand Rapids, Mich.

INSECTICIDE CONCENTRATES, SYNTHETIC

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
California Spray-Chemical Corp., Richmond, Calif.
Chipman Chem. Co., Bound Brook, N. J.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fairfield Chemical Div., 441 Lexington Ave., N. Y.
Geigy Agric. Chems., Ardsley, N. Y.
General Chem. Div., Allied Chemical & Dye Corp., 40 Rector St., N. Y. 6
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland 15
Hercules Powder Co., 961 Market St., Wilmington, Dela.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis 14
Michigan Chemical Corp., St. Louis, Mich.
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
S. B. Penick & Co., 50 Church St., N. Y. 8
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1

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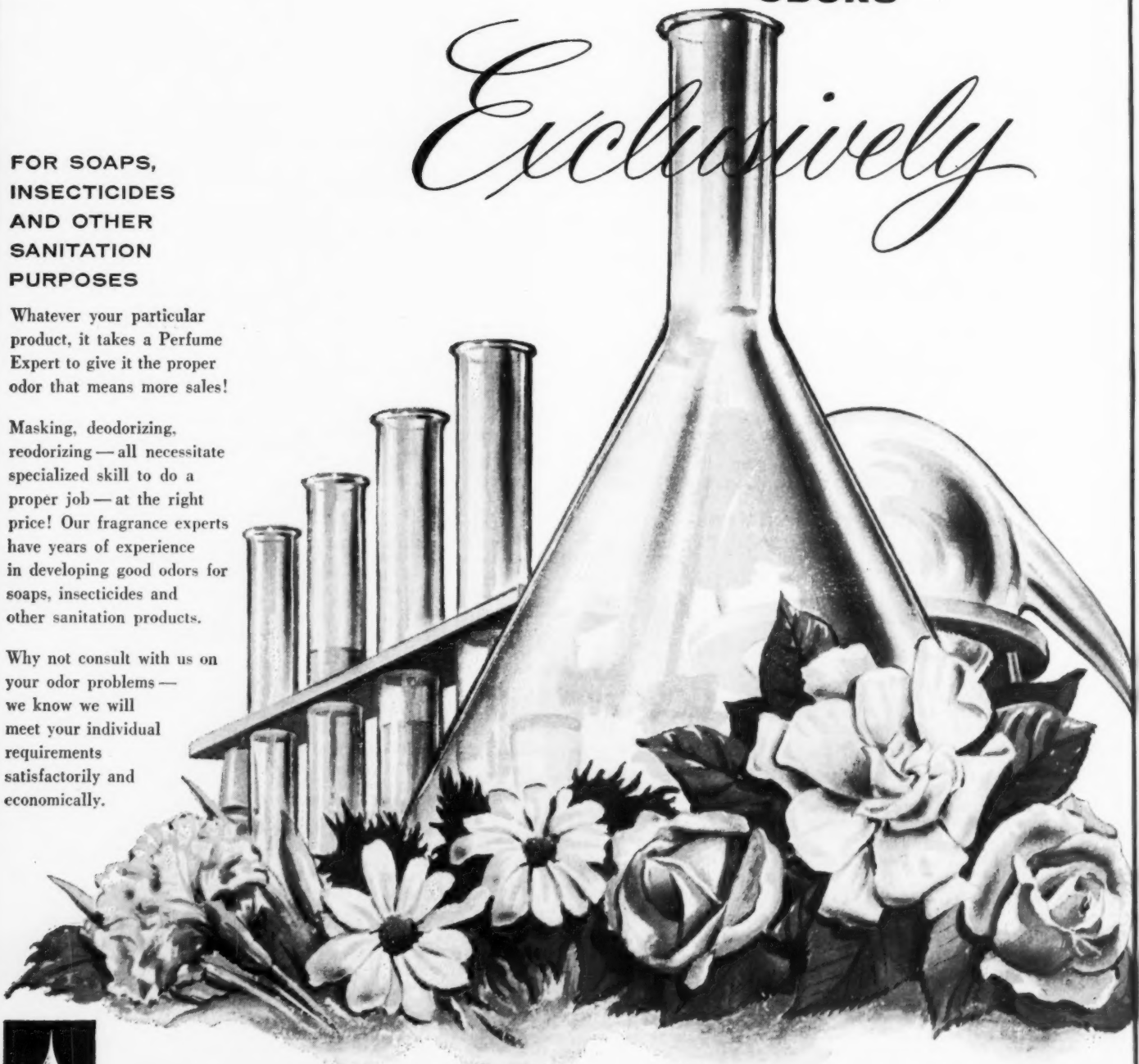

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INSECTICIDE CONCENTRATES, SYNTHETIC (Contd.)

Rohm & Haas, Inc., 222 W. Washington Sq., Phila.
Shell Chemical Corp., 50 W. 50th St., N. Y. 20
Velsicol Corp., 330 E. Grand Ave., Chicago
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

INSECTICIDE SPRAY PERFUMES (see Also Perfuming Compounds)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
W. J. Bush & Co., 137 Boston Post Rd., Cos Cob, Conn.
Antoine Chiris Co., 212 E. 23rd St., N. Y.
Descolfonges, Inc., 160 5th Ave., N. Y. 10
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
Dragoco, Inc., 432 4th Ave., N. Y. 16
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Felton Chemical Co., 603 Johnson Ave., Bklyn.
Firmenich, Inc., 250 W. 18th St., N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 305 E. 46th St., N. Y.
D. W. Hutchinson & Co., 700 S. Columbus Ave., Mt. Vernon, N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y. C.
Lautier Fils, Inc., 321 5th Ave., N. Y. C.
Magnus, Mabee & Reynard, Inc., 16 Desbrosses St., N. Y.
Neumann-Buslee & Wolfe, 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J.
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y. 8
Perry Bros., Inc., 61-12 32nd Ave., Woodside 77, N. Y.
Polak's Frutal Works, 33 Sprague Ave., Middletown, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Reynaud, Ltd., 355 W. 52nd St., N. Y. 19
Rhodia, Inc., 60 E. 56th St., N. Y.
Roubechez, Inc., 8 E. 12th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Shulton, Inc., Fine Chemicals Div., 630 Fifth Ave., N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Prods. Corp., 725 Broadway, N. Y. 3
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y. 19
Van Dyk & Co., Belleville, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Chem. Co., 25 Verona Ave., Newark, N. J.

INSECTICIDE SPREADERS (see Clays)

INSECTICIDE VAPORIZERS (see Vaporizers, insecticide)

INSTRUMENTS (see Laboratory Apparatus)

ISO-PROPYL ALCOHOL (see Alcohol, Iso-Propyl)

INSECTICIDES, HOUSEHOLD AND INDUSTRIAL (LIQUID)

Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Airkem, Inc., 241 E. 44th St., N. Y. 17
Ampion Corp., 4-48 47th Ave., L. I. C., N. Y.
A-M-R Chem. Co., 985 E. 35th St., Bklyn. 10
Baird & McGuire, Inc., Holbrook, Mass.
Brilco Labs., 1553 63rd St., Brooklyn
California Spray-Chemical Corp., Richmond, Calif.
Chase Products Co., 1816 St. Charles Rd., Maywood, Ill.
Chemical Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Douglas Chem. Co., 620 E. 16th Ave., North Kan. City, Mo.
Eagle Soap Co., Huntington, Ind.
Elkay Products Co., 323 W. 16th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agric. Chems., Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
James Good, Inc., 2107 Susquehanna Ave., Phila.
Gulf Oil Co., Gulf Bldg., Pittsburgh
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hysan Prods. Co., 936 W. 38th Place, Chicago
K. B. Chem. Co., Dunnell's Lane, Pawtucket, R. I.
Kemiko Mfg. Co., 500 Chancellor Ave., Irving, N. J.
Klenzade Prods., Beloit, Wisc.
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
M. & H. Laboratories, 2703-5 Archer Ave., Chicago
Midland Labs., Dubuque, Iowa
Miller Products Co., Portland 1, Ore.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
John Opitz, Inc., 50-14—39th St., Long Island City
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Perrow Chem. Co., Hurt, Va.
Private Bands, Inc., 300 S. 3rd St., Kansas City, Kan.
Residex Corp., Foot of Centre St., Newark, N. J.
Schaeffer Mfg. Co., 102 Barton St., St. Louis, Mo.
I. Schneid, Inc., 916 Ashby St., NW, Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
Standard Oil Co., of Calif., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Trio Chem. Wks., 341 Scholes St., Bklyn.
Sprayway, Inc., 7638 Vincennes Ave., Chicago
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Virginia-Carolina Chem. Corp., Richmond, Va.
Warsaw Chem. Co., Warsaw, Ind.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
York Chem. Co., 23 Dean St., Bklyn. 1

INSECTICIDES, HOUSEHOLD AND INDUSTRIAL (POWDER)

Ampion Corp., 4-48 47th Ave., L. I. C., N. Y.
A-M-R Chem. Co., 985 E. 35th St., Bklyn. 10
Brilco Labs., 1553 63rd St., Brooklyn 19
California Spray-Chemical Corp., Richmond, Calif.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chemical Service Co. of Baltimore, Howard & West Sts., Baltimore 30, Md.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Continental Industries, Inc., Brazil, Ind.
Eagle Soap Co., Huntington, Ind.
Elkay Products Co., 323 W. 16th St., N. Y.
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Geigy Agric. Chems., Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
K. B. Chem. Co., Dunnell's Lane, Pawtucket, R. I.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
D. S. Lesnever & Son, 213 Summer St., Lynn, Mass.
Midland Labs., Dubuque, Ia.
Miller Prods. Co., Portland 1, Ore.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
John Opitz, Inc., 50-14 39th St., L. I. City
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Residex Corp., Foot of Centre St., Newark, N. J.
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Science Industries, 1509 N. Broadway, St. Louis
Trio Chemical Wks., 341 Scholes St., Bklyn. 6
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1001 S. Calif. Ave., Chicago 12
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Wilkil Company, 1174 S. La Brea Ave., Los Angeles
York Chem. Co., 23 Dean St., Bklyn. 1

"ISOTRON" (Fluorinated Hydrocarbon Propellants)

Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.

JACKETED KETTLES (see Kettles)

JARS, GLASS (see Bottles and Jars)

JASMIN, ARTIFICIAL (see Aromatic Chemicals)

KAOLIN (see Clays)

KEROSENE (see Insecticide Base Oils)

KETTLES

Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
Alsop Engineering Corp., Milldale, Conn.
Bethlehem Foundry & Mach. Co., Grand Cent. Bldg., N. Y.

KETTLES (Contd.)

S. Blickman, Inc., 72 Gregory Ave., Weehawken, N. J.
Conn & Co., Warren, Pa.
Craddock Equipment Co., 1507 A St., Wilmington, Del.
J. H. Day Co., 1444 Harrison Ave., Cincinnati
Edge Moor Iron Wks., Edge Moor, Dela.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark 5, N. J.
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Littleford Bros., 443 E. Pearl St., Cincinnati
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Patterson Kelley Co., East Stroudsburg, Pa.
Pfaudler Co., 1000 West St., Rochester, N. Y.
Poulsen Co., 5957 W. 3rd St., Los Angeles
Read Standard Corp., York, Pa.
Henry Simon Ltd., Stockport, England
Sowers Mfg. Co., 1296 Niagara St., Buffalo, N. Y.
Struthers-Wells Co., Warren, Pa.
U. S. Stoneware Co., Akron 9, O. (Porcelain)

KIESELGUHR (Infusorial Earth) (see Abrasives and Fillers)

KITS (Metal) (see Pails, Metal)

KNEADERS (see Mixing Machinery)

LABELING MACHINES (Bottles and Cans)

Alsop Engineering Corp., Milldale, Conn.
Burt Machine Co., Baltimore, Md.
Chisholm-Ryder Co. of Pa., Hanover, Pa.
Economic Machinery Corp., 60 Fremont St., Worcester, Mass.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Hornney & Co., 420 Lexington Ave., N. Y.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago 22 (used)
M. R. M. Co., 191 Berry St., Brooklyn
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
New Jersey Machine Corp., Hoboken, N. J.
Package Mchy. Co., East Longmeadow, Mass.
Pneumatic Scale Corp., Quincy 71, Mass.
Potdevin Machine Co., 200 North St., Teterboro, N. J.
Scientific Filter Co., 59 Rose St., N. Y.
Standard-Knapp Div., Portland, Conn.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.

LABELING MACHINES (Boxes & Cakes)

Alsop Engineering Corp., Milldale, Conn.
Economic Machy. Co., 60 Fremont St., Worcester, Mass.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Loeb Equipment & Supply Co., 810 W. Superior St., Chicago (used)
M. R. M. Co., 191 Berry St., Bklyn.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
New Jersey Machine Corp., Hoboken, N. J.
Pneumatic Scale Corp., Quincy 71, Mass.
Potdevin Machine Co., 200 North St., Teterboro, N. J.
Scientific Filter Co., 59 Rose St., N. Y.

LABELS, Paper and Foil

Cameo Die & Label Co., 154 W. 14th St., N. Y.
Dennison Mfg. Co., Framingham, Mass.
Ever Ready Label Corp., Belleville 9, N. J.
Foilcraft Printing Corp., 3611 14th Ave., Bklyn.
Foxon Co., Providence, R. I.
Milprint, Inc., Milwaukee 1, Wisc.
Reynolds Metals Co., Louisville, Ky.

LABORATORIES, TESTING

Carl N. Anderson, 342 Madison Ave., N. Y. 17
Louis C. Barail, 550 5th Ave., N. Y. 36
Harry W. Dietert Co., 9330 Roselawn Ave., Detroit, Mich.
Entomological Testing Labs., 1 Park Ave., N. Y. 16
Robert A. Foresman, Jr., 1690 Margaret St., Phila.
Hudson Laboratories, Inc., 117 W. 13th St., N. Y. 11
Hilltop Research Inst., Inc., 925 Wm. H. Taft Rd., Cincinnati, O.
Industrial Bio-Test Labs., Inc., 1810 Frontage Rd., Northbrook, Ill.
Kroner Laboratories, 275 Water St., N. Y. 7
Lodes Aerosol Consultants, Inc., 730 5th Ave., N. Y.

LABORATORIES, TESTING (Contd.)

Leberco Labs., 123 Hathorne St., Roselle Pk., N. J.
J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Molnar Laboratories, 211 E. 19th St., N. Y.
Scientific Associates, 3755 Forest Park Blvd., St. Louis
Seil, Putt & Rusby, 16 E. 34th St., N. Y.
Foster D. Snell, 29 W. 15th St., N. Y.
Stillwell & Gladding, 130 Cedar St., N. Y.
Wisconsin Alumni Research Foundation, Madison, Wis.

LABORATORY ANIMALS

Albino Farms, Red Bank, N. J.
Breeding & Lab. Inst., 619 Kent Ave., Brooklyn
Harry W. Dietert Co., 9330 Roselawn Ave., Detroit, Mich.
Foster D. Snell, 29 W. 15th St., N. Y. 11

LABORATORY APPARATUS AND EQUIPMENT

Atlas Electric Devices Co., 4114 N. Ravenswood Ave., Chicago
Builders Sheet Metal Works, 108 Wooster St., N. Y. C. (aerosols)
Cargille Scientific, Inc., 117 Liberty St., N. Y. 6 (chlorine and quaternary test kits)
Central Scientific Co., 1700 W. Irving Pk., Chicago
J. H. Day Co., Inc., Cincinnati 12 (roller mills)
Harry W. Dietert Co., 9330 Roselawn Ave., Detroit (device for determining moisture content)
Ertel Engineering Corp., West Front St., Kingston, N. Y. (Filters)
Fisher Scientific Co., 717 Forbes St., Pittsburgh
Emil Greiner Co., 161 Avenue of Americas, N. Y.
Kent Machine Wks., 37 Gold St., Brooklyn (roller mills)
Laboratory Construction Co., 111 Holmes St., Kansas City, Mo.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J. (mills and plodders)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Chas. Ross & Son Co., 150-154 Classon Ave., Brooklyn 5 (roller mills and mixers)
Scientific Materials Co., Pittsburgh
Arthur H. Thomas Co., Vine St. at 3rd, Phila.
U. S. Stoneware Co., Akron 9, O. (Ball Mills)

LABORATORY CHEMICALS

J. T. Baker Chemical Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Fisher Scientific Co., 717 Forbes St., Pittsburgh
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Mallinckrodt Chemical Works, 3600 N. 2nd St., St. Louis
Merck & Co., Rahway, N. J.
Arthur H. Thomas Co., Vine St. at 3rd, Phila.

LABORATORY TESTING EQUIPMENT (see Apparatus and Equipment)

LANOLIN

Aceto Chem. Co., 40-40 Lawrence St., Flushing, N. Y.
American Lanolin Corp., Lawrence, Mass.
Bopf-Whitman Corp., 1135 Elizabeth Ave. W., Linden, N. J.
Botany Worsted Mills, Dayton Ave., Passaic, N. J.
Frank G. Fanning Co., 352 Doremus Ave., Newark, N. J.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Griffin Chem. Co., 1000 16th St., San Francisco
Hummel Chemical Co., 90 West St., N. Y.
Lanaetex Products, Inc., 151 3rd Ave., Elizabeth, N. J.
N. I. Malmstrom & Co., 147 Lombardy St., Brooklyn
Merck & Co., Rahway, N. J.
Pfaltz & Bauer, Inc., 350—5th Ave., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

LARD OIL

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
Neatsfoot Oil Refineries Corp., Ontario & Bath Sts., Phila.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.

LAUNDRY BLEACH (Sodium Hypochlorite)

American Soap & Washoline Co., Cohoes, N. Y.
Columbia-Southern Chem. Corp., Pittsburgh
E. I. du Pont de Nemours & Co., Wilmington
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Hysan Products Co., 936 W. 38th Place, Chicago
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Legrand Bleach Corp., 111—49th St., Brooklyn
Monsanto Chemical Co., St. Louis
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
Olin Mathieson Chemical Corp., Baltimore 3
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Jos. Turner & Co., Ridgefield, N. J.
Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

LAUNDRY BLUE

American Cyanamid Co., Bound Brook, N. J.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Union Com. Bldg., Cleveland
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Fiber Chem. Corp., Matawan, N. J.
General Dyestuff Co., Div. General Aniline & Film Corp., 435 Hudson St., N. Y.
Hilton-Davis Chemical Co., 2235 Langdon Farm Rd., Cincinnati
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Leeben Color & Chem. Co., 103 Lafayette St., N. Y.
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Washine-National-Sands, Inc., 37-02 Northern Blvd., Long Island City
Wyandotte Chems. Corp., J. B. Ford Div., Wyandotte, Mich.

LAUNDRY SOAP, CAKE

Albany Soap Corp., 46 Delaware Ave., Albany 3, N. Y.
American Soap & Washoline Co., Cohoes, N. Y.
Armour & Co., Chicago 9
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Cudahy Packing Co., 221 N. La Salle St., Chicago
Du Bois Soap Co., Cincinnati, O.
East Coast Soap Corp., 89 Coffey St., Bklyn.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Fels & Co., 73rd St. & Woodland Ave., Philadelphia
Hewitt Soap Co., Dayton, O.
Lever Bros. Co., 390 Park Ave., N. Y.
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
Long Island Soap Co., Meeker Ave. & Bridgewater St., Brooklyn
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
Manhattan Soap Co., Bristol, Pa.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
National Soap Co., 357 S. 25th St., Tacoma, Wash.
North Coast Chem. & Soap Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Vliet Soap Co., 638 Monroe St., Brooklyn, N. Y.
Warren Soap Mfg. Co., Brighton, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.

LAUNDRY SOAP, CHIP

Albany Soap Corp., 46 Delaware Ave., Albany 3, N. Y.
American Soap & Washoline Co., Cohoes, N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Cudahy Packing Co., 221 N. La Salle St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Du Bois Soap Co., Cincinnati, O.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Harris Soap Co., Buffalo, N. Y.
Hewitt Soap Co., Dayton, Ohio
Lever Bros. Co., 390 Park Ave., N. Y.
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
Long Island Soap Co., Meeker Ave., & Bridgewater St., Brooklyn
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
Marman Soap Co., 522 W. Juneau Ave., Milwaukee
Nat'l Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27

LAUNDRY SOAP, CHIP (Contd.)

National Soap Co., 357 South 25th St., Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
Original Bradford Soap Wks., West Warwick, R. I.
Procter & Gamble Distributing Co., Cincinnati
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Theobald Industries, P. O. Box 72, Harrison, N. J.
U. S. Borax & Chem. Corp., 100 Park Ave., N. Y.
Warren Soap Mfg. Co., Brighton, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.

LAUNDRY SOAP, POWD. AND GRAN.

Aid Soap Mfg. Co., Rochester, Pa.
Albany Soap Corp., 46 Delaware Ave., Albany 3, N. Y.
American Soap Powder Wks., 100 Van Dyke St., Brooklyn, N. Y.
American Soap & Washoline Co., Cohoes, N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Cowles Chemical Co., 7016 Euclid Ave., Cleveland, Ohio
Cudahy Packing Co., 221 N. LaSalle St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Du Bois Soap Co., Cincinnati, O.
Essential Chem. Co., 5906 N. Port Washington Rd., Milwaukee
Help, Inc., 122 W. Kinzie St., Chicago
Hewitt Soap Co., Dayton, Ohio
Lever Bros. Co., 390 Park Ave., N. Y.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
Marman Soap Co., 522 W. Juneau Ave., Milwaukee
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
Murro Chemical Co., Portsmouth, Va.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
National Soap Co., 357 South 25th St., Tacoma, Wash.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
North Coast Soap & Chem. Wks., Seattle, Wash.
Original Bradford Soap Wks., West Warwick, R. I.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Port Huron Detergent Co., Port Huron, Mich.
Procter & Gamble Distributing Co., Cincinnati
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Stevens Soap Corp., 287 Conover St., Bklyn.
Swift & Co., Union Stock Yards, Chicago
Theobald Industries, P. O. Box 72, Harrison, N. J.
Warren Soap Mfg. Co., Brighton, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.
Chas. W. Young & Co., 1247 N. 26th St., Phila.

LAUNDRY SOURS (Fluoride, etc.)

American Fluoride Corp., 151 W. 19th St., N. Y.
Blockson Chemical Co., Joliet, Ill.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington
Fiber Chem. Corp., Matawan, N. J.
Gen. Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Port Huron Detergent Co., Port Huron, Mich.
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Victor Chem. Works, 155 N. Wacker Dr., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

LAVENDER OIL (see Essential Oils)

LAURIC ACID (see also Fatty Acids)

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Foremost Food & Chem. Co., El Dorado Div., Oakland, Calif.
General Mills, Chemical Division, Kankakee, Ill.
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., Wallace & Tiernan, Inc., Box 178, Newark, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.

Swift & Co., 165th St., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y. 14
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

LAURYL ALCOHOL

Aceto Chem. Co., 40-40 Lawrence St., Flushing, N. Y.
American Alcolac Corp., 3440 Fairfield Rd., Balto. 26
Archer-Daniels-Midland Co., Minneapolis 2
Dehydag Deutsche Hydrierwerke, Henkelstrasse 67, Dusseldorf, Germany
E. I. du Pont de Nemours & Co., Wilmington, Del.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y. C.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 10
M. Michel & Co., 90 Broad St., N. Y.
Marchon Prods., Ltd., Whitehaven, Cumberland, England
Stanalchem Inc., 350 Madison Ave., N. Y. 17
Robinson Wagner Co., 110 E. 42nd St., N. Y.

LEAK DETECTORS, AEROSOL (see Aerosol Leak Detectors)

LECITHIN

American Lecithin Corp., 57-01 32nd Ave., Woodside 77, N. Y.
Archer-Daniels-Midland Co., Minneapolis 2
Drackett Co., 5020 Spring Grove, Cincinnati 32
General Mills, Inc., Chemical Division, Kankakee, Ill.
Glidden Co., 1825 N. Laramie Ave., Chicago
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Robinson, Wagner Co., 110 E. 42nd St., N. Y. 17
Ross & Rowe, Inc., 50 Broadway, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wilson Labs., 4221 S. Western Blvd., Chicago

LEMON OIL, LEMONGRASS OIL (see Essential Oils)

LETHANE

Rohm & Haas, Inc., 222 W. Washington Sq., Phila.

LINDANE (Benzene Hexachloride, 99% gamma isomer)

California Spray-Chemical Corp., Richmond, Calif.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Geigy Agric. Chems., Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Tennessee Prods. & Chems. Corp., American National Bank Bldg., Nashville, Tenn.
Westvaco Chlor-Alkali Div., 405 Lexington Ave., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

LINDANE FORMULATIONS

A-M-R Chemical Co., 958 E. 35th St., Bklyn. 10
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chem. Insecticide Corp., 129 Montague St., Bklyn. 1
Douglas Chem. Co., 620 E. 16th Ave., North Kansas City, Mo.
Dow Chem. Co., Midland, Mich.
Eagle Soap Co., Huntington, Ind.
Fuld Bros. 702 Wolfe St., Baltimore 31
Geigy Agric. Chems., Ardsley, N. Y.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
McLaughlin, Gormley, King Co., 1715 5th St., S. E. Minneapolis
Michigan Chemical Corp., St. Louis, Mich.
Midland Laboratories, 210 Jones St., Dubuque, Iowa
Olin Mathieson Chem. Corp., Baltimore
S. B. Penick & Co., 50 Church St., New York
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Pittsburgh Coke & Chem. Co., 2000 Grant Bldg., Pittsburgh
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. 3 St., Kansas City, Kan.
J. W. Quinn Drug Co., Greenwood, Miss.
Residex Corp., Foot of Centre St., Newark, N. J.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
George Stearns Chem. Co., 4200 E. Mendota St., Madison, Wisc.
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
York Chem. Co., 23 Dean St., Bklyn. 1

LINERS, bag, barrel, box, case and drum

Angier Corp., Framingham, Mass.
Arkell Safety Bag Co., 10 E. 40th St., N. Y.
Bemis Bros. Bag Co., 601 S. 4th St., St. Louis
Canton Containers, Inc., 1101 9th St., S.E., Canton, Ohio
Diaphane Corp., 1934 Arch St., Phila.
Kalamazoo Vegetable Parchment Co., Parchment, Mich.
Protective Lining Corp., 22 Woodhull St., Brooklyn 31
Queen Transparent Specialties, 4637 W. Fullerton Ave., Chicago
Thilmany Pulp & Paper Co., Kaukanna, Wisc.
Vis-A-Pac, Beverly, N. J.
Western Waxed Paper Div., Crown Zellerbach Corp., San Leandro, Calif.
Wyndmoor Mfg. Corp., 306 Lyons Ave., Newark, N. J.

LINING MACHINERY (Cartons)

R. A. Jones & Co., Covington, Ky.
Loeb Equipment & Supply Co., 810 W. Superior St., Chicago (used)
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Pneumatic Scale Corp., North Quincy ,Mass.
F. B. Redington Co., 112 S. Sangamon St., Chicago

LINSEED OIL (see also Brokers and Dealers)

Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Archer-Daniels-Midland Co., Minneapolis, Minn.
Buffalo Solvents & Chem. Corp., P. O. #73, Sta. B, Buffalo
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Sols. & Chems. Co., Dixie Highway, Louisville, Ky.
Falk & Co., Pittsburgh
Hoosier Solvents & Chems. Corp., 1650 Luett St., Indianapolis
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
Missouri Solvents & Chems. Co., 419 DeSoto, St. Louis
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding, Inc., 17 Battery Place, N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Texas Solvents & Chem. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo 14
Arthur C. Trask Co., 4103 S. LaSalle St., Chicago
Welch, Holme & Clark Co., 439 West St., N. Y.
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chems. Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solvents & Chems. Co., 2940 Stafford Ave., SW, Grand Rapids, Mich.

LINSEED OIL FATTY ACIDS

Archer-Daniels-Midland Co., Minneapolis 2
E. F. Drew & Co., 15 E. 26th St., N. Y. 16
Falk & Co., Pittsburgh 30
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

LINSEED OIL SOAP (see Potash Soaps)

LIQUID SOAPS AND BASES (see Potash Soaps)

LUDOX

E. I. du Pont de Nemours & Co., Wilmington, Dela.

MACHINERY, USED (see Used Machinery)

MAGNESIUM CARBONATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Chas. B. Chrystal Co., 53 Park Pl., N. Y. 7
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Michigan Chemical Corp., St. Louis, Mich.
Merck & Co., Rahway, N. J.
Tamms Industries, 228 N. La Salle St., Chicago
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Westvaco Min. Prods. Div., 161 E. 42nd St., N. Y. 17
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y. 13

MAGNESIUM STEARATE (see Stearates)

MAHOGANY SULFONATES (see Petroleum Sulfonates)

MAHOGANY SOAP (see also Naphthenic Acids, Naphthalene Sulfonates, Petroleum Sulfonates.)

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Continental Oil Co., 630 5th Ave., N. Y. 20
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emery Industries, 4300 Carew Tower, Cincinnati
Harchem Div., Wallace & Tiernan, Inc., Box 178, Newark, N. J.
Ninol Laboratories, Prudential Plaza, Chicago
Oronite Chemical Co., 200 Bush St., San Francisco
Pennotex Oil Corp., 29 Broadway, N. Y. 6
Pennsylvania Refining Co., Butler, Pa.
L. Sonneborn Sons, 300 4th Ave., N. Y. 10

MALATHION

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.

MANILA (see Gums)

MANUFACTURER'S AGENTS

S. L. Abbot Co., 135 King St., San Francisco
Allied Basic Chemicals Ltd., 35 Anderson Ave., Toronto 12, Canada
S. E. Armstrong & Co., Union Trust Bldg., Pittsburgh
T. C. Ashley & Co., 683 Atlantic Ave., Boston
Barada & Page, Inc., Maple & Leake Aves., New Orleans, La.
Barrett & Breen Co., 80 Federal St., Boston
Ivan T. Bauman Co., 817 N. 2nd St., St. Louis 2
D. B. Becker Co., 150 Nassau St., N. Y. 38
Leon Beck Co., 1070 Folsom St., San Francisco 3
B. H. Boyet & Co., 109 N. 21st St., Louisville, Ky.
George C. Brandt Inc., 1940 Blake St., Denver, Colorado
Fred L. Brooke Co., P. O. Box 463, Oak Park, Ill.
J. J. Brown Co., 257 S. Spring St., Los Angeles
E. S. Browning Co., 1515 3rd St., San Francisco
Charles L. Burks Co., P. O. Box 1032 Black Mountain, N. Carolina
L. H. Butcher, 15th & Vermont, San Francisco
Campbell Chemical Co., 1516 Oliver Bldg., Pittsburgh 22
Geo. C. Canzoneri, 507–5th Ave., N. Y. 17
Capital Sales Co., 2624 W. 6th St., Los Angeles 57
Carroll Co., 1323 Wall St., Dallas, Texas
Fred N. Clemson, 34 Smith St., Marblehead, Mass.
Lon V. Clifton, 1901 N. 25th St., Phoenix, Ariz.
Columbia Chem. Co., 154 E. Erie St., Chicago 11
J. W. Copps, P. O. Box 116 Station F, Milwaukee, Wisc.
Cordano Chemical Co., 56 S.E. Belmont St., Portland, Ore.
Joe Coulson Co., 2525 Cline St., Houston 1, Texas
Carl Cramer Co., 626 Broadway, Cincinnati 2
Thomas R. Curtan, 142 W. 12th Ave., Denver, Colo.
Arthur G. De Vries, 136 W. 2nd St., Reno, Nev.
P. D. Dexheimer, 308 W. Washington St., Chicago 6
Dorsett & Jackson, 840 E. 60th St., Los Angeles 1
Douw Fonda Co., 1440 11th St., Denver 4, Colo.
Dowdy Bros., 33 & Arch Sts., Phila.
Ducros & Co., 2860 E. 130th St., Cleveland
A. T. Eavenson & Sons, P. O. Box 312, Swarthmore, Pa.
J. T. Erlin Co., 383 Brannan St., San Francisco 7
Everitt & Ray, 225 W. 23rd St., Los Angeles 7
Wallace Fambrough, Atlanta, Ga.
Donald R. Fitzgerald, 1005 W. Belmont, Chicago
R. E. Flatow & Co., 10 Madison St., Oakland, Calif.
Floor Equipment Co., Ft. Worth, Texas
Walter R. Frank, Box 11C, Elmhurst, Ill.
Erwin Gerhard, 40 Calif. St., San Francisco
Gillies, Inc., 164 Court Place, Denver, Colo.
E. P. Gilsdorf & Co., 246 Ritch St., San Francisco
H. Gloeckler Assoc., 155 E. 44th St., N. Y. 17
Globe Chem. Co., Murray Rd., Cincinnati
L. C. Green Co., 605 3rd St., San Francisco 7
Griffith-Mehaffey Co., Inc., 102 Peydras St., New Orleans 12
Harrisons & Crossfield Ltd., 240 Adelaide St. W., Toronto, Canada
Jack W. Henderson, 322 Casa Linda Plaza, Dallas, Tex.
Daniel G. Hereley Co., 1607 Howard St., Chicago 26
Highland Sales Co., 1863 Wazee St., Denver, Colo.
Robert Hoffman, 575 Midwood St., Bklyn.
R. T. Hopkins Co., 544 Means St., N.W., Atlanta, Ga.
Horn, Jefferys & Co., Burbank, Calif.
H. D. Hornley Co., 34 S. 17th St., Phila.
Howley-White Co., 100 Arlington St., Boston, Mass.
R. B. Huber Co., 16 Tremont St., Boston, Mass.
W. R. Husen Co., 125 Woodland Ave., E. Orange, N. J.
D. W. Hutcheson Co., 665 Boylston St., Boston, Mass.
Clifford L. Iorns Co., 216 S. 7th St., St. Louis
James & Cooper Co., 2323 Gardenia Dr., Houston, Tex.
H. Earl Johannes, 3011 E. 56th St., N., Kansas City, Mo.
Fred W. Kamin, 14820 Detroit Ave. 2, Tex.
Leonard Karotkin, P. O. Box 1137, Hartford, Conn.
Bernard Karsch, 26-11 172nd St., Flushing, N. Y.
T. C. Kiesel, 3141 Lasantville, Cincinnati
Homer W. Kinnish, 643 W. 52nd St., Seattle 7, Wash.
Kirby Sales Co., 841 E. 4th Pl., Los Angeles
M. H. Knox & Company, 617 Sansome St., San Francisco
Franklin J. Koch Sales Co., 12754 Otsego, N. Hollywood, Calif.
Krauter Trading Co., 51 E. 42nd St., N. Y. 17
Leuck Sales Service, Panama City, Fla.
Lewis & Company, 102 W. Main St., Louisville 2, Ky.
Edward J. Lewis Co., 9 S. Clinton St., Chicago
Walter Lewis, 30 Circuit Rd., Winthrop, Mass.
Wm. C. Loughlin Co., 311 California St., San Francisco
M. R. Matterson-Van Weg, Inc., 403 Baltimore Ave., W. Detroit
Merchants Chem. Co., 60 E. 42nd St., N. Y. 17
James O. Meyers Sons, 290 Larkin St., Buffalo 10, N. Y.
Mierson Sales Co., 615 2nd St., San Francisco 7
Morgan & Sampson, 866 Folsom St., San Francisco
A. C. Mueller Co., 616 St., Clari Ave., NW. Cleveland
C. K. Mullin, Inc., 160 Washington N, Boston 14
Mundo Trading Co., 6325 Pine Ave., Bell, Calif.
J. E. Niehaus & Company, 3419-21 Gratiot St., St. Louis
A. C. Nispel, Inc., 150 Causeway St., Boston 14, Mass.
O'Reilly & Boaden, Greenville, R. I.
Pacific Coast Chem. Co., 2060 3rd St., Berkeley 10, Calif.
Palmer Supplies Co., 2281 Scranton Rd., Cleveland
Bill Plowfield, 1011 Chestnut St., Phila.
Robert L. Plumanns, 6205 W. Montrose Ave., Chicago
Ken Poulsen Associates, P. O. Box 801, Madison, Wisc.
Pressel & Co., 1353 Myrtle Ave., Bklyn.
Quigley & Mike, 7-133 General Motors Bldg., Detroit, Mich.
Roy A. Ribelin Distributing Co., 570 A.M. & M. Bldg., Houston, Tex.
Glenn W. Richard, 146 Raleigh Ave., Mansfield, Ohio
W. W. Richerson, Santa Fe Bldg., Dallas 2, Tex.
B. H. Roettker & Co., 3732 Lovell St., Chevoit, Ohio
Sidney Ross, 6490 Ardleigh St., Phila.
A. W. Runglin Co., 672 S. Lafayette Park Place, Los Angeles
Ryan Leary Sales Co., 373 Trapelo Rd., Belmont 79, Mass.
Henry Schwartz, Box 12, Little Neck 62, N. Y.
Selective Enterprises, 1200 N. Alvarado St., Los Angeles 26
Robert F. Sheahan Co., 728 M. & M. Bldg., Memphis, Tenn.
Thos. J. Shields Co., 11 Water St., N. Y. 4
M. H. Siegel, 7020 Park Heights Ave., Baltimore
S. S. Skelton Co., 2775 S. Morland, Cleveland
D. B. Smith Co., 1016 1st Ave., S., Seattle, Wash.
K. A. Steel Chemicals, Inc., 7450 Stony Island Ave., Chicago
M. B. Sweet Co., 9100 S. Park Ave., Chicago 19
David R. Swift Co., 304 Merchandise Mart., Dallas
E. B. Taylor Co., 442 Colyton St., Los Angeles
H. D. Thornley Co., 901 Liftwood Rd., Wilmington, Dela.
David H. Tilley Co., 516 N. Charles St., Baltimore
Thomson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City, Mo.
The Truesdale Co., 52 Cambridge St., Boston, Mass.
Trump Associates, Inc., 545 N. 4th Ave., Tucson, Ariz.
Van Horn, Metz & Co., 241 E. Elm St., Conshohocken, Pa.
E. M. Walls Co., 353 Sacramento St., San Francisco
John E. Walsh, 2255 Stephen Long Dr., N.E. Atlanta 5
A. L. Webb & Sons, Inc., 1411-13 Fleet St., Baltimore 31
O. L. West, 50 E. Wynnewood Rd., Rm. 202, Wynnewood, Pa.
The Paul Wiemer Co., 2089 Sherman Ave., Norwood, Ohio
Silas Wootton & Co., Merchandise Mart Bldg., Dallas
Jesse S. Young Co., 2 Park Ave., N. Y. 16
E. E. Zimmerman Co., Keenan Bl., Pittsburgh 22

MARINE SOAPS (see Salt Water Soaps)

MARKING MACHINES

Acro Tool & Dye Works, 4554 Broadway, Chicago
Adolph Gottscho, Inc., 6 Evans Terminal, Hillside, N. J.
Weber Addressing Machine Co., Mt. Prospect, Ill.

MASKING COMPOUNDS (see also perfuming compounds)

Alpine Aromatics, Inc., 398 Main St., Metuchen, N. J.
Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dragoco, Inc., 432 4th Ave., N. Y.
Felton Chem. Co., 603 Johnson Ave., Bklyn.
Firmenich, Inc., 250 W. 18th St., N. Y.
Fleuroma, Inc., 38 W. 21st St., N. Y. 10
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fries & Fries, Inc., 110 E. 70th St., Cincinnati
Fritzche Brothers, Inc., 76 9th Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Lautier Fils, Inc., 321 5th Ave., N. Y.

MASKING COMPOUNDS (Contd.)

Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
A. Maschmeijer, Jr., Div., 630 5th Ave., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J.
Orbis Prods. Corp., 601 W. 26th St., N. Y.
Perry Bros., 61-12 32nd Ave., Woodside 77, N. Y.
Polak's Frutal Wks., Inc., 33 Sprague Ave., Middletown, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Rhodia, Inc., 60 E. 55th St., N. Y.
Roubechez, Inc., 8 E. 12th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Synfleur Scientific Laboratories, Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Prods. Corp., 725 Broadway, N. Y.
Ungerer & Co., 161 Ave. of Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y.
Van Dyk & Co., Belleville 9, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Chemical Co., 26 Verona Ave., Newark, N. J.

MECHANIC'S HAND PASTE (see Hand Soap)

MEDICINAL SOAPS (Cake)

Armour & Co., 1355 W. 31st St., Chicago
Hewitt Soap Co., Dayton, O.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

MEDICINAL SOAPS, LIQUID (see Potash Soaps)

MENTHOL (see also Essential Oils)

Aromatic Prods., 235 4th Ave., N. Y. 3
Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
Consumers Import Co., 350 Fifth Ave., N. Y.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dragoco, Inc., 432 4th Ave., N. Y. 16
P. R. Dreyer, 601 W. 26th St., N. Y.
Enco Chem. Corp., 441 Lexington Ave., N. Y.
Fine Chems. Div., Shulton, Inc., 630 5th Ave., N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Frizsche Bros., Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Glidden Co., Jacksonville, Fla.
R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y. 10
Magnus, Mabee & Reynard, Inc., 16 Desbrosses St., N. Y.
McKesson & Robbins, Inc., 155 E. 42nd St., N. Y.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y., N. Y.
Orbis Products Corp., 601 W. 26th St., N. Y.
Polak's Frutal Works, 33 Sprague Ave., Middletown, N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Tombarel Prods., 725 Broadway, N. Y. 3

MERCAPTANS (see Thioglycolic Acid)

METAL POLISH (see Polishes, Metal)

METALLIC SOAPS (see Stearates)

METHANOL (Synthetic) (see also Alcohols)

Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati
Buffalo Solvents & Chemicals Corp., Box 73 Station B, Buffalo, N. Y.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
E. I. du Pont de Nemours & Co., Wilmington
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis, Ind.
Merck & Co., Rahway, N. J.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis
Nitrogen Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland
Olin Mathieson Chem. Corp., Baltimore 3
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Southern Solvents & Chemicals Co., 917 Jefferson Highway, New Orleans
Texas Solvents & Chemicals Co., 8501 Market St., Houston, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit
Wisconsin Sols. & Chems. Corp., 1719 S. 83rd St., Milwaukee, Wisc.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.

METHOXYCHLOR

E. I. du Pont de Nemours & Co., Wilmington, Del.
Geigy Agric. Chems., Ardsley, N. Y.

METHOXYCHLOR FORMULATIONS

Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Insecticide Corp., 129 Montague St., Bklyn. 1
Chemical Service of Balto., Howard & West Sts., Balto.
E. I. du Pont de Nemours & Co., Wilmington
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
McLaughlin, Gormley, King Co., 1715 5th St., SE, Minneapolis
Olin Mathieson Chem. Corp., Baltimore 3
S. B. Penick & Co., 50 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Residex Corp., Foot of Centre St., Newark, N. J.
Warsaw Chem. Co., Warsaw, Ind.

METHYL ANTHRANILATE (see also Aromatic Chemicals)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y. 14
Dow Chemical Co., Midland, Mich.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Florasynth Labs., 900 Van Nest Ave., N. Y.
Fritzsche Bros., 76 9th Ave., N. Y. 11
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y. 13
A. Maschmeijer, Jr., Div., 630 5th Ave., N. Y.
Neumann-Buslee & Wolfe, 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Corp., 601 W. 26th St., N. Y. 1
Polak's Frutal Wks., 33 Sprague St., Middletown, N. Y.
Schimmel & Co., 601 W. 26th St., N. Y. 1
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
Verona Chemical Co., 26 Verona Ave., Newark 4, N. J.

METHYL BROMIDE

Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Dow Chemical Co., Midland, Mich.
Michigan Chem. Co., St. Louis, Mich.
Westvaco Chlor-Alkali Div., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

METHYL CELLULOSE

Antara Chemicals, Div., General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Dow Chemical Co., Midland, Mich.
Hercules Powder Co., 961 Market St., Wilmington, Del.

METHYL CHLORIDE

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
Bell Alkali Co., Belle, W. Va.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Solvay Process Div., Allied Dye & Chem. Corp., 61 Broadway, N. Y.
Virginia Smelting Co., W. Norfolk, Va.

METHYL ETHYL KETONE

Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Celanese Corp. of America, 180 Madison Ave., N. Y. 16
E. I. du Pont de Nemours & Co., Wilmington
Enjay Co., 15 W. 51st St., N. Y. 19
Nitrogen Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Shell Chemical Corp., 50 W. 50th St., N. Y.

METHYL SALICYLATE (Artificial Wintergreen) (see also Aromatic Chemicals)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Dodge & Olcott, Inc., 180 Varick St., N. Y. 14
Dow Chemical Co., Midland, Mich.

METHYL SALICYLATE (Contd.)

Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y. 13
A. Maschmeijer, Jr., Div., 630 5th Ave., N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis
Neumann, Buslee & Wolfe, Inc., 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y. 1
Schimmel & Co., 601 W. 26th St., N. Y. 1
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
Verona Chemical Co., 26 Verona Ave., Newark, N. J.

METHYLENE CHLORIDE

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Kolker Chem. Corp., 600 Doremus Ave., Newark, N. J.
Solvay Process Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.

MICROCRYSTALLINE WAXES (Emulsifiable)

Aerogon Chemical Industries, 240 Broadway, N. Y. C.
Bareco Wax Co., Div. Petrolite Corp., Box 2009, Tulsa, Okla.
International Wax Refining Corp., Valley Stream, N. Y.
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Moore & Munger Co., 33 Rector St., N. Y. C.
Pennotex Oil Corp., 29 Broadway, N. Y.
Warwick Wax Co., 10-10 44th Ave., L. I. C., N. Y.
Wax Corp. of America, 21-29 Dunham Pl., Bklyn.

MILDEW PREVENTIVES

A-M-R Chemical Co., 985 E. 35th St., Bklyn.
Antara Chemicals, Div., GAF, 435 Hudson St., N. Y.
Chem. Service Co., of Baltimore, Howard & West Sts., Baltimore
Click Chem. Corp., 601 Columbus Ave., Mount Vernon, N. Y.
Cuprinol Div., Darworth, Inc., Simsbury, Conn.
Dover Chem. Co., Dover, O.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Hilton-Davis Chem. Co., 2235 Langdon Farm Rd., Cincinnati
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Mallinckrodt Chemical Wks., St. Louis 7
Monsanto Chemical Co., St. Louis
Olin Mathieson Chem. Corp., Baltimore 3
Oronite Chem. Co., 200 Bush St., San Francisco
Prior Chemical Corp., 420 Lexington Ave., N. Y.
Rohm & Haas Co., Washington Sq., Phila. 5
Sindar Corp., 330 W. 42nd St., N. Y. 36
R. T. Vanderbilt Co., 230 Park Ave., N. Y. 17
Warwick Chemical Co., 10th St. & 44th Ave., Long Island City, N. Y.

MILLS, SOAP POWDER (see Soap Machinery & Grinding Machinery)

MINERAL OIL, WHITE (see White Mineral Oil)

MINERAL SOAP (see Petrolatum)

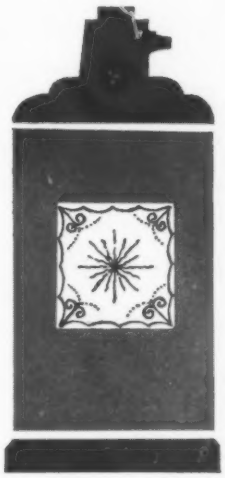
MIRBANE OIL (Nitrobenzene) (see also Essential Oils)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Dodge & Olcott, Inc., Varick St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fritzsche Bros., 76 9th Ave., N. Y. 11
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y. 13
Monsanto Chemical Co., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Roubechez, Inc., 8 E. 12th St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y. 1
Ungerer & Co., 161 Ave. of Americas, N. Y. 13

MIXERS (Portable)

Alsop Engineering Corp., Milldale, Conn.
Conn. & Co., S. Marion St., Warren, Pa.

MAJOR SOLVENT
FOR
NONFLAMMABLE PAINT REMOVERS



SOLVENT-PROPELLENT
FOR
AEROSOL FORMULATIONS

Versatile METHYLENE CHLORIDE does these jobs...and more

PROPERTIES

Formula	CH_2Cl_2
Molecular Weight	84.94
Boiling Point	39.8°C.(103.6°F.)
Freezing Point	-96.7°C.(-142.1°F.)
Specific Heat	
cal./g./°C. or B.T.U. lb./°F.	
Liquid (20°C.)	0.276
Vapor (cp) (B.P., I atm.)	0.152
Specific Gravity 20/4°C.	1.326
Weight per Gallon (20°C.)	11.07 lbs.

The major constituent of nonflammable paint removers is methylene chloride. Used in combination with additives, activators, wetting or coupling agents, it is highly effective on a wide variety of finishes, including those containing many of the newer resins.

Nonflammable and of low toxicity, methylene chloride is also used in low-pressure aerosols as a diluent and pressure depressant for the more expensive higher-pressure propellents . . . and as a solvent for the active ingredients. This solvent action helps minimize plugging of the dispensing nozzle and keeps the active ingredients completely in solution in storage.

In addition to these two popular uses, methylene chloride is also used in resin castings, cold-cleaning compositions, low-temperature brine coolants, extraction operations and adhesive preparations.

Du Pont has available literature on this versatile solvent covering handling and storage, chemical and physical properties, and other useful information. Why not send for it today? The coupon below will bring a prompt response.

DU PONT

METHYLENE CHLORIDE

DU PONT
REG. U.S. PAT. OFF.

BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

E. I. du Pont de Nemours & Co. (Inc.)
Electrochemicals Department • Wilmington 98, Delaware

Please send me full specifications, handling and storage data on Methylene Chloride.

*Name*_____ *Title*_____

*Firm*_____

*Address*_____

*City*_____ *Zone*____ *State*_____

MIXERS (PORTABLE) (Contd.)

Craddock Equipment Co., 1507 A St., Wilmington, Del.
Eastern Industries, Inc., Hamden 14, Conn.
Ertel Engineering Corp., West Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Mixing Equipment Co., Inc., 167 Mt. Read Blvd., Rochester, N. Y.
Morehouse-Cowles, Inc., 1150 San Fernando Rd., Los Angeles
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Rapids Machy. Co., Marion, Ia.
Read-Standard Corp., York, Pa.
Young Machy. Co., Muncy, Pa.

MIXING MACHINERY (Change Can Mixers)

Conn. & Co., 9 S. Marion St., Warren, Pa.
Craddock Equipment Co., 1507 A St., Wilmington, Del.
J. H. Day Co., Cincinnati 12
H. Hockmeyer & Co., 341 Coster St., N. Y.
Houchin Machy. Co., Hawthorne, N. J.
Kent Machine Works, 39 Gold St., Brooklyn
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Mach., 1051 W. 35th St., Chicago (Used)
Rapids Machy. Co., Marion, Ia.
Read Standard Corp., York, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Troy Engine & Machine Co., Troy, Pa.

MIXING MACHINERY (General)

Alsop Engineering Corp., Milldale, Conn.
Amer. Mach. & Foundry Co., 261 Madison Ave., N. Y.
Brower Mfg. Co., 411 N. 3rd St., Quincy, Ill.
Conn. & Co., 9 S. Marion St., Warren, Pa.
Craddock Equipment Co., 1507 A St., Wilmington, Del.
J. H. Day Co., Cincinnati 12
Eastern Industries, Inc., Hamden 14, Conn.
Ertel Engineering Corp., W. Front St., Kingston, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Gifford-Wood Co., 420 Lexington Ave., N. Y. C.
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Houchin Machinery Co., Hawthorne, N. J.
International Engineering, P. O. Box 973, Dayton 1, O.
Kent Machine Works, 39 Gold St., Brooklyn
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Micro Processing Equipment, Inc., Savage, Minn.
Mixing Equipment Co., 167 Mt. Read Blvd., Rochester, N. Y.
Munson Mill Machy. Co., 210 Seward Ave., Utica, N. Y.
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Pfaudler Co., 1000 West St., Rochester, N. Y.
Poulsen Co., 5937 W. 3rd St., Los Angeles
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Rapids Machy. Co., Marion, Ia.
Read Standard Corp., York, Pa.
Chas. Ross & Son Co., 150 Classon Ave., Brooklyn
Raymond Pulverizer Div., 1314 N. Branch St., Chicago
Scottdel, Inc., Swanton, Ohio
Sprout, Waldron & Co., Muncy, Pa.
Sturtevant Mill Co., Dorchester, Boston 22, Mass.
U. S. Stoneware Co., Akron 9, O.
Young Machy. Co., Muncy, Pa.

MIXING MACHINERY (Dry Products)

Abbe Engineering Co., Little Falls, N. J.
Brower Mfg. Co., 411 N. 3rd St., Quincy, Ill.
Conn. & Co., 9 S. Marion St., Warren, Pa.
J. H. Day Co., Cincinnati 12
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Houchin Machinery Co., Hawthorne, N. J.
International Engineering, P. O. Box 973, Dayton 1, O.
Lancaster Iron Works, Lancaster, Pa.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Munson Mill Machy. Co., 210 Seward Ave., Utica, N. Y.
Newman Tallow & Soap Mach. Co., 1501 W. 35th St., Chicago (used)
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh

Poulsen Co., 5957 W. 3rd St., Los Angeles
Prater Pulverizer Co., 1829 S. 55th Ave., Chicago
Rapids Machy. Co., Marion, Ia.
Read Standard Corp., York, Pa.
Robinson Mfg. Co., Muncy, Pa.
Scottdel, Inc., Swanton, Ohio
Sprout, Waldron & Co., Muncy, Pa.
F. J. Stokes Machine Co., 5500 Tabor Rd., Phila.
Struthers-Wells Corp., Warren, Pa.
Sturtevant Mill Co., Dorchester, Boston 22, Mass.
U. S. Stoneware Co., Akron 9, O.
Young Machy Co., Muncy, Pa.

MONOCHLORBENZENE (see listing under Paradichlorbenzene)

MONOETHANOLAMINE (see listings under Ethanolamines)

MOSQUITO LARVAECIDES

A-M-R Chemical Co., 985 E. 35th St., Bklyn. 18
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Insecticide Corp., 129 Montague St., Bklyn.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Chipman Chemical Co., Bound Brook, N. J.
Davies-Young Soap Co., Dayton, O.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agric. Chems., Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
R. M. Hollingshead Corp., Camden, N. J.
James Huggins & Son, 239 Medford St., Malden, Mass.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Michigan Chem. Corp., St. Louis, Mich.
S. B. Penick & Co., 50 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 2100 Switzer Ave., St. Louis
Velsicol Corp., 330 E. Grand Ave., Chicago
York Chem. Co., 23 Dean St., Bklyn. 1

MOTH CAKES AND CRYSTALS (see Deodorizing Blocks)

MOTH PROOF BAGS

Clopay Co., Cincinnati
Kennedy Car Liner Co., Indianapolis
LeMontre Co., Cincinnati
Puro Co., 2801 Locust St., St. Louis 3
Rosette Co., 200 Tillary St., Brooklyn

MOTHPROOFING COMPOUNDS

Ampion Corp., 4-88 – 47th Ave., L. I. City, N. Y.
Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chem. Insecticide Corp., 129 Montague St., Bklyn. 1
Chem. Service of Balto., Howard & West Sts., Balto.
Click Chemical Corp., Columbus & Carleton Aves., Mt. Vernon, N. Y.
Dow Chemical Co., Midland, Mich.
Eagle Soap Corp., Huntington, Ind.
Elkay Prods. Co., 323 W. 16th St., N. Y.
Fine Organics, Inc., 211 E. 19th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agric. Chems., Ardsley, N. Y.
James Good Co., 2107 Susquehanna Ave., Philadelphia
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Pl., Chicago
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Merck & Co., Rahway, N. J.
Michigan Chem. Corp., St. Louis, Mich.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
McLaughlin, Gormley, King Co., 1715 S. E. 5th St., Minneapolis
Monsanto Chem. Co., St. Louis 4
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Per-Mo Products Co., 1716 E. 36th St., Kansas City, Mo.
Puro Co., 2801 Locust St., St. Louis
Quaker Chem. Prods. Co., Conshohocken, Pa.
Reilly Tar & Chemical Corp., Indianapolis
Residex Corp., Foot of Centre St., Newark, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn. 6
Sprayway, Inc., 7638 Vincennes Ave., Chicago
Jos. Turner & Co., Ridgefield, N. J.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Warwick Chemical Co., 10-10 44th Ave., L. I. C. 1, N. Y.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
York Chem. Co., 23 Dean St., Bklyn. 1

MOTH SPRAYS (see Household and Industrial Insecticides, Liquid; Moth Proofing Compounds)

MOTTLED SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles
National Soap Co., P. O. Box 1613, Tacoma, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

MURIATIC ACID

Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington
Dow Chem. Co., Midland, Mich.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y. 17
Monsanto Chemical Co., St. Louis
Olin Mathieson Chem. Corp., Baltimore 3
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Tenn. Prod. & Chem. Corp., Nashville 3, Tenn.
Wyandotte Chems. Corp., Michigan Alkali Div., Wyandotte, Mich.

MUSKS, ARTIFICIAL (see Aromatic Chemicals)

NAPHTHA (see Solvents, Naphtha)

NAPHTHALENE

Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Neville Chemical Co., Pittsburgh
Penna. Industrial Chem. Corp., Clairton, Penna.
Reilly Tar & Chem. Corp., Merchant Bank Bldg., Indianapolis
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Standard Naphthalene Prods. Co., S. Kearny, N. J.
Tar Residuals, Inc., 420 Lexington Ave., N. Y.
U. S. Steel Corp., Pittsburgh 30
Velsicol Corp., 330 E. Grand Ave., Chicago

NAPHTHALENE SULFONATES

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y. 18
Atlantic Refining Co., 260 S. Broad St., Phila.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Geigy Industrial Chemicals, Ardsley, N. Y.
M. Michel & Co., 90 Broad St., N. Y. 4
National Aniline & Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City, N. J.
Oronite Chemical Co., 200 Bush St., San Francisco
Pennsylvania Refining Co., Butler, Pa.
L. Sonneborn Sons, 300 4th Ave., N. Y.
Ultra Chemical Wks., 2 Wood St., Paterson, N. J.
Warwick Chemical Co., 10th St. & 44th Ave., Long Island City, N. Y.

NAPHTHENATES (see Copper Naphthenate)

NAPHTHENIC ACIDS (and Sulfonic Sludges)

Advance Solvents & Chem. Co., 245 — 5th Ave., N. Y.
Atlantic Refining Co., 260 Broad St., Philadelphia
E. I. du Pont de Nemours & Co., Wilmington
Enjay Co., 15 W. 51st St., N. Y. 19
Naftone, Inc., 515 Madison Ave., N. Y. 2
Oronite Chem. Co., 200 Bush St., San Francisco
Pennsylvania Refining Co., Butler, Pa.
Sherwood Refining Co., Englewood, N. J.
L. Sonneborn Sons, 300 4th Ave., N. Y.
Ultra Chem. Wks., 200 Wood St., Paterson, N. J.

NEATSFOOT OIL

Armour & Co., 1355 W. 31st St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Neatsfoot Oil Refineries Corp., Ontario & Bath Sts., Phila.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.

NICOTINE COMPOUNDS

California Spray-Chemical Corp., Richmond, Calif.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Hood River Spray Co., Hood River, Ore.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Sanocide Spray Co., Fenville, Mich.

NITRATE OF SODA

Chilean Nitrate Sales Corp., 120 Broadway, N. Y.
Davies Nitrate Co. 114 Liberty St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington
Nitrogen Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., Baltimore 3

NITRE CAKE (Sodium Acid Sulfate)

Amer. Agricultural Chem. Co., 50 Church St., N. Y.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Philadelphia
Monsanto Chemical Co., St. Louis
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17

NITRIC ACID

General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Olin Mathieson Chem. Corp., Baltimore 3
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.

NITROPARAFFINS

Commercial Solvents Corp., 260 Madison Ave., N. Y. 16

NONYL PHENOL

Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Jefferson Chemical Co., Box 303, Houston, Tex.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Stepan Chem. Co., 20 N. Wacker Dr., Chicago

NOVELTY SOAPS

Armour & Co., 1355 W. 31st St., Chicago
Chicago Sanitary Products Co., 3100 S. Throop St., Chicago 8
Hewitt Soap Co., Dayton, O.
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
Mem Co., 67 Irving Pl., N. Y. 3
Original Bradford Soap Wks., West Warwick, R. I.
Peck's Products Co., 610 E. Clarence Ave., St. Louis
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

NOZZLES FOR SPRAY SYSTEMS

Bete Fog Nozzle Co., Greenfield, Mass.
Johnson-March Corp., 1724 Chestnut St., Phila. 3

Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Monarch Mfg. Works, 3406 Miller St., Phila.
Spraying Systems Co., 3266 Randolph St., Bellwood, Ill.
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

NOZZLES, for agricultural, insecticide and portable sprayers

Bete Fog Nozzle Co., Greenfield, Mass.
Monarch Mfg. Wks., 3406 Miller St., Phila.
Spraying Systems Co., 3266 Randolph St., Bellwood, Ill.

OIL HYDROGENATION PLANTS

Project Construction Corp., 39 Broadway, N. Y. 6
Wurster & Sanger, Inc., 5201 S. Kenwood Ave., Chicago

OITICICA OIL

Archer-Daniels-Midland Co., Minneapolis
Brazil Oiticica, Inc., 80 Broad St., New York 4
Brazilian Industrial Oils, Inc., 75 West St., N. Y.
Geo. Degen & Co., 111 Broadway, N. Y. 6
Internatio-Rotterdam, Inc., 61 Broadway, N. Y. 6
Murray Oil Prods. Co., 21 West St., N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
Werner G. Smith, Inc., 1730 Train Ave., Cleveland 13, Ohio
G. A. Wharry & Co., 125 Broad St., N. Y.

OLIVE OIL AND OLIVE OIL FOOTS (Commercial)
(see also Brokers and Dealers)

Irving R. Boody & Co., 120 Wall St., N. Y.
Camilli, Albert & Laloue, 15 E. 48th St., N. Y. 17
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Eastern Industries, Inc., Ridgefield, N. J.
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Leghorn Trading Co., 141 E. 44th St., N. Y.
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Sergeant Chem. Co., 7 Dey St., N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Strohmeyer & Arpe Co., 139 Franklin St., N. Y. 13
Welch, Holme & Clark Co., 439 West St., N. Y.

OLIVE OIL SOAPS (see Castile Soaps, Textile Soaps)

OPTICAL BRIGHTENERS

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
General Dyestuff Co., Div. General Aniline & Film Corp., 435 Hudson St., N. Y.
Carlisle Chemical Works, Reading, O.
Ciba Co., 627 Greenwich St., N. Y. 14
E. I. du Pont de Nemours & Co., Wilmington
Fiber Chem. Corp., P. O. Box 218, Matawan, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Hilton-Davis Chem. Co., 2235 Langdon Farm Rd., Cincinnati 13
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chem. Co., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Sandoz Chem. Wks., 61 Van Dam St., N. Y. 13
Stanalchem Inc., 350 Madison Ave., N. Y. 17

ORTHODICHLOROBENZENE (see listings under Paradichlorobenzene)

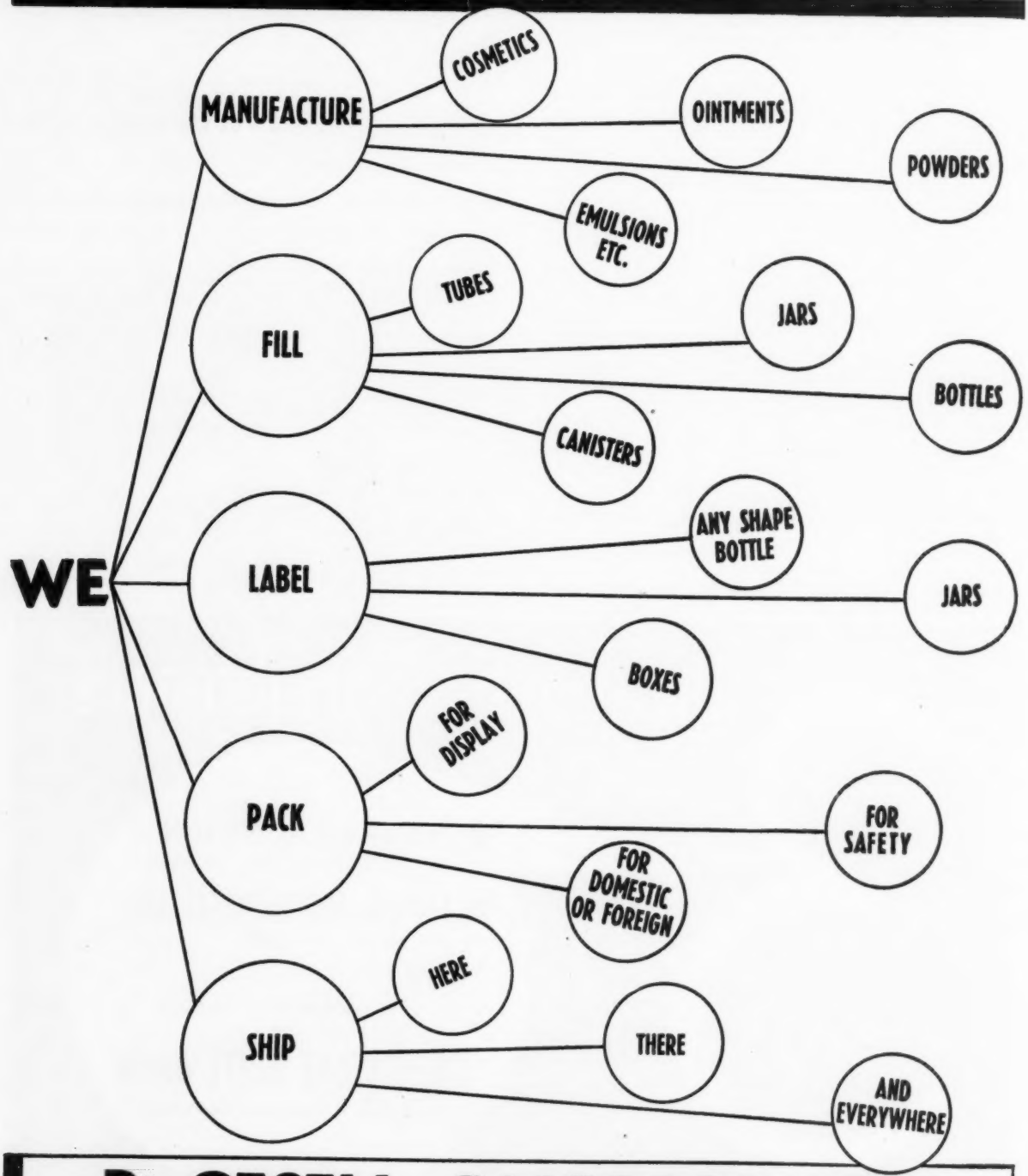
OXALIC ACID

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Electrochemical Co., 200 Union St., Niagara Falls, N. Y.
Mallinckrodt Chemical Wks., St. Louis, Mo.
Merck & Co., Rahway, N. J.
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Wks., 155 N. Wacker Dr., Chicago 6

PACKAGING (for the Trade)
(See also Aerosol Filling for the Trade)

A-M-R Chem. Co., 985 E. 35th St., Bklyn. 10
Aerosol Techniques, Inc., 111 Silliman Ave., Bridgeport, Conn.
Airosol Co., Inc., Neodesha, Kansas
Armstrong Laboratories, 421 LaGrange St., Boston
Associated Brands, 50 Wallabout St., Bklyn.

PRIVATE FORMULA WORK



R. GESELL, INCORPORATED

Manufacturing Chemists

200 West Houston Street, New York 14, N. Y.

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CUSTOM MANUFACTURING AND COMPOUNDING

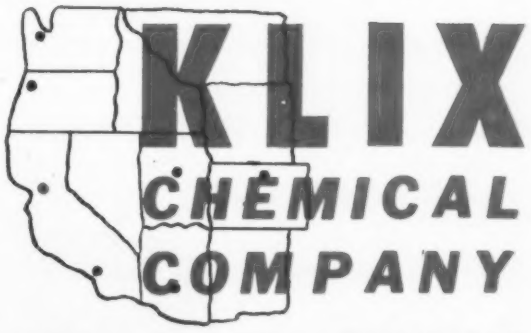
LIQUIDS — POWDERS — PRIVATE LABEL

- **FORMULATING** to your specifications or ours, using quality raw materials.
- **PERSONALIZED** service with individual employee pride in quality.
- **FINISHED PRODUCTS** of top quality, leading to repeat orders.
- **GEOGRAPHICALLY** located to best serve the West.
- **ALL TRANSACTIONS** held in the strictest confidence.
- **OUR ORGANIZATION** will bear your most thorough investigation as to financial responsibility, service and dependability.

WE SELL TO JOBBERS —

Soaps, Disinfectants, Deodorants, Detergents, Industrial Cleaners

We believe we are in the fortunate position of being a company *small enough* to be flexible and give you very close personal attention . . . large enough to obtain low costs through volume purchasing, and to have efficient controlled production. *Your inquiry is invited.*



551 RAILROAD AVE., S. SAN FRANCISCO, CALIF.

"Serving the Eleven Western States"

CONTRACT PACKAGING

Courtesy of the Cleveland Electric Illuminating Co.

. . . in the very heart of the market center of America—an area within 500 miles of Cleveland . . . with a population of 81,000,000 people . . . earning 74% of the nation's payroll dollars.

COMPLETE CONTRACT PACKAGING FACILITIES *ready* TO SERVE YOUR PACKAGING NEEDS

Whatever your packaging requirements, we can be of service to you . . .

- **Centralized packaging to reduce freight costs on distribution to eastern and mid-western markets.**
- **Packaging for special promotions or sampling.**
- **Packaging for peak-season requirements.**
- **Packaging to provide a second source of supply.**
- **Pilot-line packaging tests.**
- **Taking over your entire packaging and distribution operations to relieve you of excessive packaging and transportation costs.**

Since 1934 we've specialized in contract packaging and we are providing efficient, economical custom packaging service for scores of companies, large and small. Our personnel is fully experienced in all types of packaging. Our compounding and packaging equipment is modern, high speed and efficient. We have a new, modern plant with complete warehousing and shipping facilities. We are meticulous with inventory records and insurance coverage on client's goods.

We'd be more than happy to discuss your packaging requirements and submit an estimate in the form of a unit price—each package complete, packed and ready for shipment. Your inquiry is cordially invited.

PRODUCTS PACKAGING, Inc.
BOX 1076, STATION "A", CLEVELAND 2, OHIO

Packagers of automotive and household chemical-specialties and insecticides. Assemblers of hardware and industrial parts.

Packaging in bottles, metal or fibre cans, bags, envelopes, tubes —sizes from a fraction of an ounce to 5 gal. or several pounds.

PACKAGING FOR THE TRADE (Contd.)

G. Barr & Co., 3601 S. Racine Ave., Chicago
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Capitol Packaging Co., 1441 Circle Ave., Forest Park, Ill.
Chemical Enterprises, 1131 W. Devon Ave., Chicago 40
Chem. Prods. Co. of N. J., 207 Astor St., Newark, N. J.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Connecticut Chem. Research Corp., Bridgeport, Conn.
Continental Filling Corp., Danville, Ill.
Curley Co., Inc., 1432 N. Randolph St., Phila. 22
Douglas Chem. Co., 620 E. 16th Ave., North Kan. City, Mo.
Fluid Chem. Co., 878 Mt. Prospect Ave., Newark, N. J.
Gard Industries, Inc., 733 Green Bay Rd., Wilmette, Ill.
Gaylord Chem. Co., 701 Woodsweather Rd., Kansas City, Mo.
R. Gesell, Inc., 200 W. Houston St., N. Y.
Help, Inc., 122 W. Kinzie St., Chicago
R. Hurwich Co., 1043 Hearst Ave., Berkeley, Calif.
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Iver's-Lee Co., 215 Central Ave., Newark, N. J.
Kan-Jax Co., 2500 Summit, Kansas City, Mo.
Klix Chemical Co., 551 Railroad Ave., South San Francisco, Calif.
Lawson Chem. Prods. Co., 5364 Selmarine Dr., Culver City, Calif.
Manufacturers Aid Co., 315 34th St., Union City, N. J.
McGuire & Co., 833 – 4th Ave., Oakland, Calif.
Moss Soap Co., Pinellas Int'l. Airport, St. Petersburg, Fla.
National Spray Can Filling Corp., 1238 E. 14th St., Brooklyn
Old Empire Inc., Mt. Prospect & Verona Aves., Newark, N. J.
Pack-It, 222 Pacific St., Newark 5, N. J.
Paket, Inc., 9022 S. Baltimore St., Chicago
Peterson Filling & Packg. Co., Danville, Ill.
J. L. Prescott Co., 27 8th St., Passaic, N. J.
Private Brands, Inc., 300 S. 3rd St., Kansas City 18, Kan.
Products Packaging, Inc., 6400 Herman Ave., Cleveland 2
Reily Chem. Co., Industrial Prods. Div., P.O. Box 98, New Orleans
Gene Rose Co., Inc., 1637 S. Kilbourn, Chicago
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland 13
John C. Stalfort & Sons, 319 W. Pratt, Baltimore
Stevens Wiley Mfg. Co., 1601 W. Glenwood Ave., Phila.
Trio Chemical Wks., 341 Scholes St., Bklyn. 5
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
Western Filling Corp., 4151 Bandini Blvd., Los Angeles 23
Van Pell Chem. & Supply Corp., 48 E. First St., N. Y.
Warsaw Chemical Co., Warsaw, Ind.
Waverly Mfg. Co., 1825 Wylie St., Phila.

PACKAGE PRINTERS AND DESIGNERS

American Can Co., 100 Park Ave., N. Y. 17
American Colortype Co., 1151 Roscoe St., Chicago
J. L. Clark Mfg. Co., Rockford, Ill.
Container Corp. of America, 38 S. Dearborn St., Chicago
Continental Can Co., 100 E. 42nd St., N. Y. 17
Crown Cork & Seal Co., 9300 Ashton Rd., Phila.
Robert Gair Co., 155 E. 44th St., N. Y.
Gardner Board & Carton Co., Middletown, O.
Gaylord Container Corp., 111 N. Fourth St., Middletown, O.
Lehmann Printing & Lithographing Co., 300 2nd St., San Francisco
Reynolds Metals Co., Louisville, Ky.
Schmidt Lithograph Co., 462 Second St., San Francisco
U. S. Printing & Lithograph Co., Beech St., Cincinnati

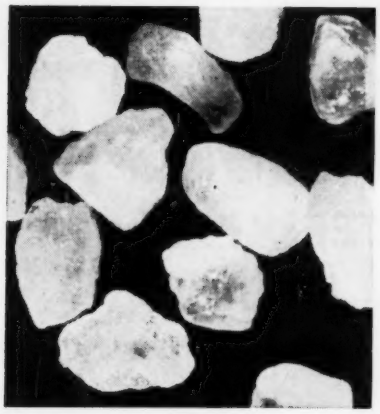
PACKAGING MACHINERY (see Cartoning Machy., Filling Machy., Weighing Equip., Wrapping Machy.)

PAILS (Wooden)

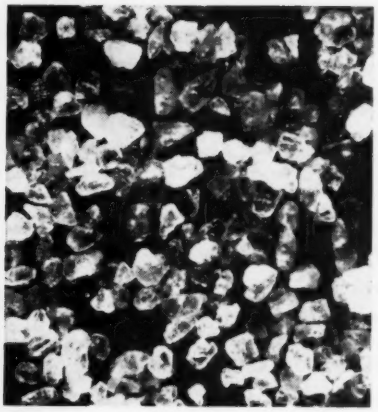
Beaver Mills, Keene, N. H.
Eagle Woodenware Mfg. Co., Hamilton, O.
Gambrinus Cooperage Works, Louisville
Impervious Package Co., Keene, N. H.
Menasha Woodenware Co., Menasha, Wis.
Richmond Cedar Works, Richmond, Va.
White Mop Wringer Co., Fultonville, N. Y.

PAILS, METAL (Shipping Containers)

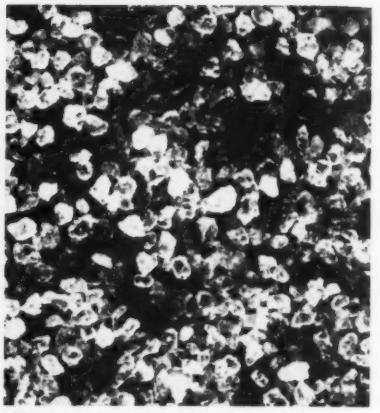
American Can Co., 100 Park Ave., N. Y.
Bennett Industries, Peotone, Ill.
Central Can Co., 2415 W. 19th St., Chicago
Columbia Can Co., 59-27 54th St., Maspeth 78, N. Y.
Continental Can Co., 100 E. 42nd St., N. Y.
Eastern Can Co., Keap St. & Kent Ave., Bklyn.
Fein's Tin Can Co., Bush Terminal, Brooklyn



1. REPACKAGE these sparkling *Pea No. 1* crystals just as they come from the drum. Clean, dry, non-oily, they give maximum sales appeal to your product.

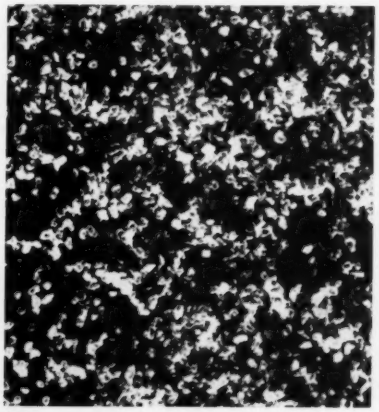


2. ADD VARIETY to your mothicide line with smaller, free-flowing *Pea No. 2* crystals. Repackage them as they are, or perfume them without melting.

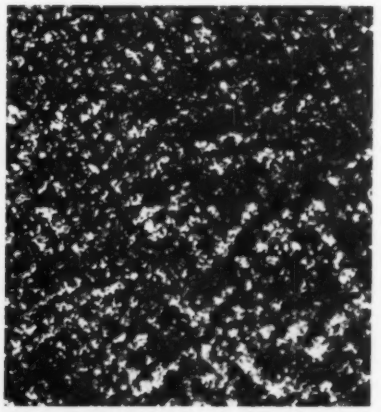


3. A POPULAR SIZE for sprinkling on clothes, *Rice No. 1* sublimes quickly to an extra-high concentration of pleasant-smelling, moth-killing fumes.

4. FEED POWER PRESSES with *Rice No. 2*. These crystals are just right for compressing into blocks or pellets. They flow freely; refill dies rapidly.



5. IN FOOT PRESSES, *Rice No. 3* works best. The crystals are free-flowing, small enough to pack and compress with little effort, for fast production.



6. MELT THIS SUPERFINE *Powdered* size for molding into blocks or pellets. It melts rapidly, saves production time. Easily colored or perfumed.

All photos actual size

6 ways to market a purer *para*-dichlorobenzene product

Get more repeat orders for your *para*-dichlorobenzene products—by offering your market a line made with sparkling 100% pure PARADI®.

Your retail customers will like these sparkling white, dry, non-oily crystals. They sublime completely, leaving no residue or odor, because they're 100% Hooker *para*-dichlorobenzene, with no *ortho*-.

Whether you repackage *para*-dichlorobenzene, compress it into blocks, or use it directly in process, you'll find extra convenience and real production economy in the wide choice PARADI gives you.

For a farm pesticide and weed killer, try our 7th form, *granulated* PARADI.

You can have PARADI shipped promptly in fiber drums containing 25, 50, 100, or 250 pounds. If you'd like to see one-pound samples, just ask us on your company letterhead, specifying the sizes you want.

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201 Union Street, Niagara Falls, N. Y.

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HOOKER CHEMICALS PLASTICS

PAILS, METAL (Contd.)

Geuder, Paeschke & Frey Co., Milwaukee
Inland Steel Container Co., 6532 S. Menard Ave., Chicago
Jones & Laughlin Steel Corp., 405 Lexington Ave., N. Y. 17
National Can Corp., 3217 W. 47th Pl., Chicago 32
National Steel Barrel Co., 3860 E. 91st St., Cleveland
Pressed Steel Tank Co., 5717 Greenfield Ave., Milwaukee
Rheem Mfg. Co., 7600 S. Kedzie Ave., Chicago
Stern Can Co., 71 Locust St., Boston 25
U. S. Steel Prods. Div., 30 Rockefeller Plaza, N. Y. 20
Vulcan Containers Ltd., Box 284, Toronto, Can.
Vulcan Steel Container Co., 3315 N. 35th Ave., Birmingham, Ala.
Vulcan Containers Inc., Bellwood, Ill.
Wheeling Corrugating Co., Wheeling, W. Va.

PALM KERNEL OIL
(see also Brokers and Dealers)

Balfour Guthrie & Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 120 Wall St., N. Y.
Leghorn Trading Corp., 141 E. 44th St., N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
Smith-Weihman Co., 15 Moore St., N. Y.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.

PALM OIL

Balfour Guthrie & Co., 67 Wall St., N. Y.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Eastern Industries, Ridgefield, N. J.
Hasselman, Seaman, de Ryss, Inc., 347 Madison Ave., N. Y. 17
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welche, Holme & Clark Co., 439 West St., N. Y.
Zimmerman Alderson Carr Co., 25 Broadway, N. Y.

PALM OIL FATTY ACIDS

Archer-Daniels-Midland Co., Minneapolis 2, Minn.
Armour & Co., 1355 W. 31st St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emery Industries, 4300 Carew Tower, Cincinnati
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., Wallace & Tiernan, Inc., Box 178, Newark, N. J.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

PARA BLOCKS (see Deodorizing Blocks)

PARADICHLOROBENZENE

Columbia-Southern Chem. Corp., Pittsburgh
Dover Chem. Co., Dover, O.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Standard Naphthalene Prods. Co., S. Kearny, N. J.

PARAFFIN

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chemicals Co., 4619 Reading Rd., Cincinnati
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Buffalo Solvents & Chemicals Co., Box 73, Station B, Buffalo, N. Y.
Candy & Co., 2515 W. 35th St., Chicago 32
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Gulf Refining Co., Pittsburgh
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis

PARAFFIN (Contd.)

International Wax Refining Corp., E. Hawthorne Ave., Valley Stream, N. Y.
Mercantile Wax, Div. of Mercantile Metal & Ore Corp., 595 Madison Ave., N. Y.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis
Moore & Munger Co., 33 Rector St., N. Y. C.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland
Pennotex Oil Corp., 29 Broadway, N. Y. 6
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 205 E. 42nd St., N. Y. 17
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Frank B. Ross Co., 6-10 Ash St., Jersey City, N. J.
Shell Oil Co., 50 W. 50th St., N. Y. 20
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630 — 5th Ave., N. Y.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Southern Solvents & Chemical Corp., 917 Jefferson Highway, New Orleans
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
F. W. Steadman Co., 59 Pearl St., N. Y.
Strohmeyer & Arpe Co., 139 Franklin St., N. Y. 13
Texas Co., 135 E. 42nd St., N. Y.
Texas Solvents & Chemicals Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Warwick Wax Co., Subsidiary Sun Chem. Corp., 10th St. & 44th Ave., Long Island City, N. Y.
Wax Corp. of America, 21-29 Dunham Pl., Bklyn.
Wax & Rosin Prods., 42 Broadway, N. Y.
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit
Wiscosin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave. S.W., Grand Rapids, Mich.

PARAFFIN OILS

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Buffalo Sols. & Chems. Co., Box 73, Sta. B, Buffalo, 7
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Dover Chem. Co., Dover, O.
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Gulf Refining Co., Pittsburgh
Hoosier Sols. & Chems. Co., 1650 Luett Ave., Indianapolis, Ind.
International Wax Ref. Corp., Valley Stream, N. Y.
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 205 E. 42nd St., N. Y. 17
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630 — 5th Ave., N. Y.
Skelly Oil Co., Skelly Bldg., Kansas City, Mo.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y.
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
F. W. Steadman Co., 59 Pearl St., N. Y.
Texas Sols. & Chems. Co., 8501 Market St., Houston, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Warwick Wax Co., Inc., Subsidiary Sun Chem. Corp., 10th St. & 44th Ave., Long Island City, N. Y.
Western Sols. & Chems. Co., 2940 Stafford Ave. S.W., Grand Rapids, Mich.
Wisconsin Sols. & Chems. Co., 1719 S. 83rd St., Milwaukee 14
Wolverine Sols. & Chems. Co., 2940 Stafford Ave. S.W., Grand Rapids, Mich.

PARIS GREEN

Dow Chemical Co., Midland, Mich.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
George F. Smith, 60 E. 42nd St., N. Y. 17

PARATHION

American Potash & Chem. Corp., 3100 E. 26th St., Los Angeles
General Chemical Division, Allied Chem. & Dye Corp., 40 Recter St., N. Y. 6
Monsanto Chemical Co., St. Louis
John Powell Co., Division of Olin Mathieson Chemical Corp., Baltimore
Stauffer Chemical Co., 380 Lexington Ave., N. Y.
Thompson-Hayward Chemical Co., 2915 Southwest Blvd., Kansas City, Kan.

PASTES (see Adhesives)

PATCHOULI OIL (see Essential Oils)

PEANUT OIL
(see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis 2
Baker Castor Oil Co., 120 Broadway, N. Y. 5
Geo. Degen & Co., 111 Broadway, N. Y. 6
Eastern Industries, Inc., Ridgefield, N. J.
Falk & Co., Pittsburgh 30
Otto A. C. Hagen Corp., Public Ledger Bldg., Phila.
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
Pierce Oil Prods. Co., East Rochester, N. Y.
J. H. Redding, Inc., 17 Battery Place, N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Sergeant Chem. Co., 7 Dey St., N. Y.
Southern Cotton Oil Co., Produce Exchange, N. Y.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.

PEANUT FATTY ACIDS

Archer-Daniels-Midland Co., Minneapolis 2, Minn.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Jos. Turner & Co., Ridgefield, N. J.
Vegetable Oil Prods. Co., 62 Townsend St., San Francisco
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.

PEARL ASH (see Potassium Carbonate)

PENNROYAL OIL (see Essential Oils)

PENTACHLOROPHENOL

California Spray-Chemical Corp., Richmond, Va.
Dow Chemical Co., Midland, Mich.
Geigy Chemical Corp., Ardsley, N. Y.
Hercules Powder Co., 961 Market St., Wilmington
Monsanto Chem. Co., St. Louis
Neville Chemical Co., Pittsburgh 25
Reilly Tar & Chemical Corp., Merchants Bank Bldg., Indianapolis, Ind.

PERFUME DISSEMINATORS

Associated Prods. Co., Bakerstown, Pa.
Chem. Service of Balto., Howard & West Sts., Balto.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Place, Chicago
Keystone Scent Conditioner Corp., 315 N. 12th St., Phila.
Robinson Clay Prod. Co., 101 Park Ave., N. Y.
Royal Industries, 23 S. Center St., Springfield, Ohio
Scent-Flo Dist. Co., 7227 Hamilton Ave., Pittsburgh 8
Star Porcelain Co., 33 Muirhead Ave., Trenton, N. J.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
Universal Electric Products, 2201 Regent St., Madison 5, Wisc.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
Williams Chem. Co., 487 Broadway, N. Y. 13

PEPPERMINT OIL (see Essential Oils)

PERFUMING COMPOUNDS

Alfa Essential Oil Co., 6 Varick St., N. Y.
Alpine Aromatics, Inc., 398 Main St., Metuchen, N. J.
American Aromatics, Inc., 24 E. 21st St., N. Y. 10
American-British Chem. Supplies, 180 Madison Ave., N. Y. 16
Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Berje Chem. Prod. Co., 359 W. Broadway, N. Y.
W. J. Bush & Co., 137 Boston Post Rd., Cos Cob, Conn.
Charabot & Co., 114 E. 25th St., N. Y.
Ph. Chaleyer, Inc., 160 E. 56th St., N. Y.
Antoine Chiris Co., 212 E. 23rd St., N. Y.
Gerard J. Danco, Inc., 5 E. 19th St., N. Y. C.
De Laire, Inc., 240 W. 30th St., N. Y.
Descollonges, Inc., 160 5th Ave., N. Y. 10

PERFUMING COMPOUNDS (Cont.)

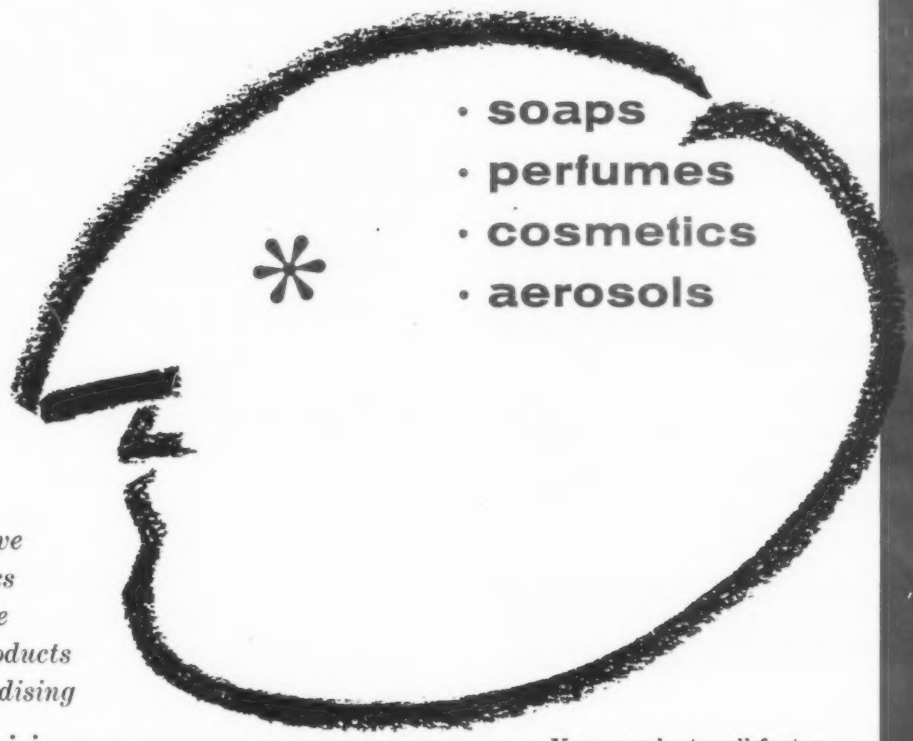
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
Dragoco, Inc., 432 4th Ave., N. Y. 16
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Eastman Chemical Prods. Co., Kingsport, Tenn.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Fine Chems. Div., Shulton, Inc., 630 5th Ave., N. Y.
Firmenich, Inc., 250 W. 18th St., N. Y.
Fleuroma, Inc., 38 W. 21st St., N. Y. 10
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fries & Fries, Inc., 110 E. 70th St., Cincinnati
Fritzsche Brothers, Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 305 E. 46th St., N. Y.
Heine & Co., 601 W. 26th St., N. Y. 1
D. W. Hutchinson & Co., 700 S. Columbus Ave., Mt. Vernon, N. Y.
Lautier Fils, 321 Fifth Ave., N. Y.
Samuel Klein, 4 Hanover Sq., N. Y. 14
Pierre Lemoine, 67 Cortlandt St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
N. Y. Aromatics Corp., High Bridge, N. J.
Neumann Buslee Wolfe, 5800 Northwest Highway, Chicago
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J.
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
Perry Bros., Inc., 61-12 32nd Ave., Woodside 77, N. Y.
Polak's Frutal Wks., 33 Sprague Ave., Middletown, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Polarome Co., 73 Sullivan St., N. Y. C.
Reynaud, Ltd., 355 W. 52nd St., N. Y. 19
Rhodia, Inc., 60 E. 56th St., N. Y.
F. Ritter & Co., 4001 Goodwin Ave., Los Angeles 39
Roubechez, Inc., 8 E. 12th St., N. Y. 3
Roure-Dupont, Inc., 366 Madison Ave., N. Y.
H. C. Ryland, Inc., 161 Water St., N. Y.
Schimmel & Co., 601 W. 26th St., N. Y.
Edwin Seebach Co., 912 Broadway, N. Y.
Seeley & Co., Nyack, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.

HELP WANTED?

If you are unable to find a listing in this edition of the SOAP BLUE BOOK for some product which you want to purchase, — a piece of equipment, a raw material, a bulk or private brand item, — drop a line to the Editor and he will do his best to locate a source of supply for you. But first, check through all the possible listing heads in this edition. If you can't find what you want, we shall be glad to help.

SOAP BLUE BOOK

What's on your **mind?**



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Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Products Corp., 725 Broadway, N. Y. 3
Ungerer & Co., 161 Avenue of Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y.
Van Dyk & Co., Belleville, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

PETROLATUM (Petroleum Jelly)

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Industrial Raw Materials Corp., 575 Madison Ave., N. Y. 22
Mercantile Wax Div., 595 Madison Ave., N. Y.
Pennotex Oil Corp., 29 Broadway, N. Y. 6
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 205 E. 42nd St., N. Y. 17
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Sherwood Refining Co., Englewood, N. J.
Sinclair Refining Co., 630 Fifth Ave., N. Y.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (N. J.), 26 Broadway, N. Y.
F. W. Steadman Co., 59 Pearl St., N. Y.
Warwick Wax Co., 10-10 44th Ave., Long Island City, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

PETROLEUM BASE OILS (see Insecticide Base Oils)

PETROLEUM SULFONATES

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Continental Oil Co., 630 5th Ave., N. Y. 30
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
Enjay Co., 15 W. 51st St., N. Y.
Ninol Laboratories, Prudential Plaza, Chicago
Oronite Chem. Co., 200 Bush St., San Francisco
Pennotex Oil Corp., 29 Broadway, N. Y. C.
Pennsylvania Refining Co., Butler, Pa.
Pilot California Co., 215 W. 7th St., Los Angeles 14
L. Sonneborn Sons, 300 4th Ave., N. Y.
Sun Oil Co., 1608 Walnut St., Phila.

PHENOL (Carbolic Acid)

Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Dow Chemical Co., Midland, Mich.
Hercules Powder Co., 961 Market St., Wilmington
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chemical Co., St. Louis
Oronite Chem. Co., 200 Bush St., San Francisco
Reilly Tar Chem. Corp., Merchant Bank Bldg., Indianapolis
Robeco Chems., Inc., 23 E. 26th St., N. Y. 10
U. S. Steel Corp., Pittsburgh 30

PHENOL-COEFFICIENT DETERMINATIONS (see Laboratories, Testing)

PHENOL, NONYL (see Nonyl Phenol)

PHENYL ETHYL ALCOHOL (see Aromatic Chemicals)

pH INDICATORS

Lamotte Chemical Prods., Dept. R., Towson, Baltimore
National Technical Labs., 820 Mission St., South Pasadena, Calif.
Pfaltz & Bauer, 350 — 5th Ave., N. Y.
W. A. Taylor Co., 7300 York Rd., Baltimore
Arthur M. Thomas Co., Vine St., at 3rd, Phila.

PHOSPHORIC ACID

American Agricultural Chem. Co., 50 Church St., N. Y. 7
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Hooker Electrochem. Co., Union St., Niagara Falls, N. Y.
Olin-Mathieson Chem. Corp., Baltimore 3
Shea Chemical Corp., Jeffersonville, Ind.
Monsanto Chemical Co., St. Louis
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond 8, Va.
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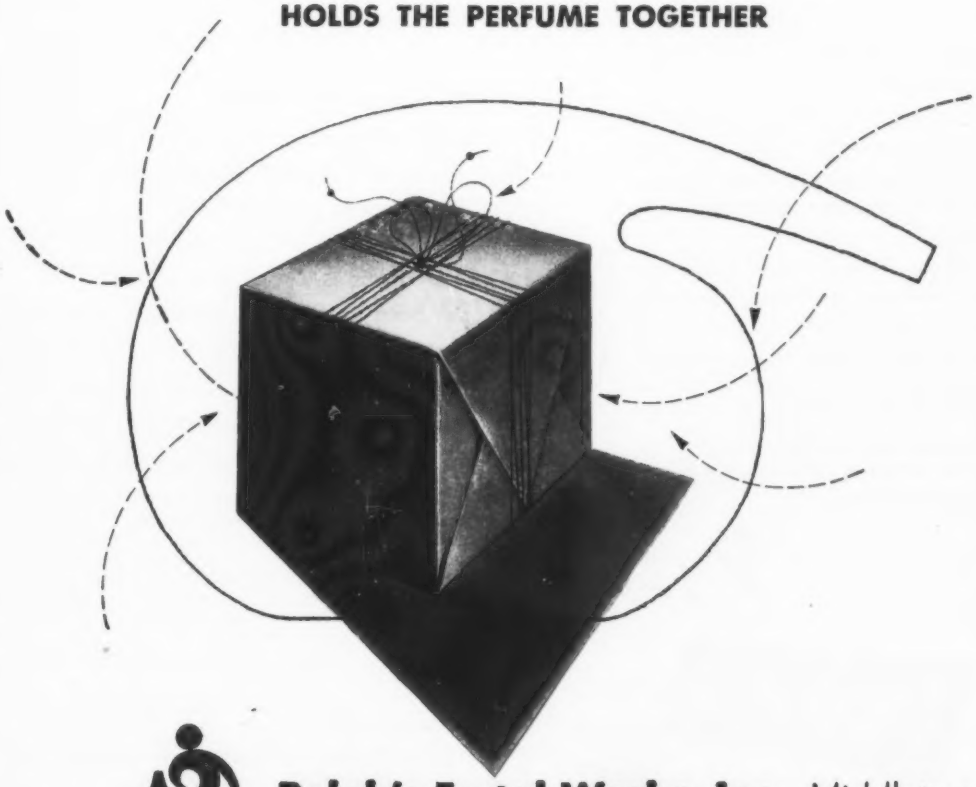

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It's the real secret of the remarkable *versatility* of the Pyrenone* concentrates.

Exacting laboratory research, as well as practical applications, over a period of 10 years *prove* conclusively that *piperonyl butoxide* –

1. **Steps up the killing power of pyrethrins at least 10 times.**
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3. **Prevents the deterioration of pyrethrins by screening out ultra-violet light.**
4. **Acts as an acid acceptor to check the decomposition and polymerization of pyrethrins.**
5. **Is readily soluble in all common organic solvents – and, in fact, is a *solvent* in its own right.**
6. **Contains no impurities and is *stable* to the action of other chemicals and exposure conditions.**

Piperonyl butoxide is an ether which combines with pyrethrins to form an almost endless variety of basic Pyrenone formulas. They are available as wettable powders, emulsifiable compounds, oil-free and oil-based concentrates.

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With respect to growing crops, *piperonyl butoxide* is exempt from the requirements of a tolerance under the Miller Bill – and can be applied right up to harvest time. On stored grains a tolerance of 20 p. p. m. has been granted for *piperonyl butoxide* and 3 p. p. m. for *pyrethrins.*

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Sennewald Drug Co., 2723 Chouteau Ave., St. Louis

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American Turpentine Farmers Association, Valdosta, Ga.
Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Buffalo Solvents & Chem. Corp., P. O. #73, Sta. B, Buffalo
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago
Continental Turp. & Rosin Corp., Laurel, Miss.
Crosby Chemicals, Inc., Picayune, Miss.
Dixie Pine Prods. Co., Hattiesburg, Miss.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Glidden Co., Jacksonville, Fla.
Gulf Naval Stores Supply Co., Whitney Bldg., New Orleans
Hercules Powder Co., 961 Market St., Wilmington, Del.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y.
Hoosier Solvents & Chems. Corp., 1650 Luett St., Indianapolis
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Missouri Solvents & Chems. Co., 419 DeSoto, St. Louis
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Phoenix Naval Stores Co., Gulfport, Miss.
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Texas Solvents & Chem. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chem. Corp., 1719 S. 83rd St., Milwaukee
Welch, Holme & Clark Co., 349 West St., N. Y.
Wolverine Solvents & Chems. Co., 2940 Stafford Ave., S.W., Grand Rapids, Mich.

PINE OIL DISINFECTANTS (see Disinfectants, Pine Oil)

PINE NEEDLE OIL (see Essential Oils)

PINE SCRUB SOAPS (see Floor Scrub Soaps)

PIPE COILS

Brighton Copper Works, Cincinnati
Harrisburg Steel Corp., Harrisburg, Pa.
Hartford Tube Products Co., Hartford, Conn.
Houchin Machinery Co., Hawthorne, N. J.
National Pipe Bending Co., New Haven, Conn.
Philadelphia Pipe Bending Co., 4100 N. 5th St., Phila.
Pittsburgh Pipe Coil & Bending Co., Etna, Pa.
Rempe Co., 340 N. Sacramento Blvd., Chicago
Whitlock Coil Pipe Co., Hartford, Conn.

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Fairfield Chem. Div., 441 Lexington Ave., N. Y.

PIPERONYL CYCLONENE

Fairfield Chem. Div., 441 Lexington Ave., N. Y.

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Motomco, Inc., Clark, N. J.

PIVAL AND PIVALYN FORMULATIONS

Adams Chem. Co., 4905 5th Ave., South, Minneapolis
Donco, Inc., 1150 W. Hampden, Englewood, Colo.
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
Motomco, Inc., Clark, N. J.
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kansas
Residex Corp., foot of Centre St., Newark, N. J.
Winru Chemical & Sales Co., 925 State Line Ave., Kansas City, Mo.

PLASTIC CONTAINERS (see Bottles, Plastic)

PLASTIC DIP TUBES (see Aerosol Dip Tubes)

PLASTICIZERS (for Floor Products)

Advance Solvents & Chem. Corp., 245 5th Ave., N. Y.
Hatco Chem. Co., Fords, N. J.
Hercules Powder Co., Wilmington, Dela.
Eastman Chem. Prods., Kingsport, Tenn.
Monsanto Chem. Co., St. Louis
Ohio-Apex Div., Food Machy. & Chem. Corp., Nitro, W. Va.
Pittsburgh Coke & Chem. Co., Pittsburgh 19

PLODDERS (see Soap Machinery)

POISONED SEEDS (Poison Grain)

Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore, Md.
Hysan Products Co., 936 W. 38th Place, Chicago
D. S. Lesnever & Son, 213 Summer St., Lynn, Mass.
O. E. Linck Co., 51 James St., Montclair, N. J.
Sennewald Drug Co., 2723 Chouteau Ave., St. Louis
W. R. Sweeney, Salisbury, Mo.
York Chem. Co., 23 Dean St., Bklyn. 1

POLISHES, FURNITURE, AUTO, ETC.

Ampion Corp., 4-88 – 47th Ave., L. I. City, N. Y.
A-M-R Chem. Co., 985 E. 35th St., Bklyn. 10
Antiseptol Co., 5524 Northwest Highway, Chicago
Baird & McGuire, Inc., Holbrook, Mass.
Banner Chemical Prod. Corp., 9 Calumet St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Bilco Chemical Co., 607 DeGraw St., Bklyn.
Boston Chemical Industries, 64 E. Brookline St., Boston
Brilco Labs., 1553 – 63rd St., Bklyn. 19
Buckingham Wax Corp., Borden Ave. and Van Dam St., L. I. City, N. Y.
Candy & Co., 2515 W. 35th St., Chicago
Cary Mfg. Co., 3550 Sweetwater Rd., Lemon Grove, Calif.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Corp., Huntington, Ind.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Federal Varnish Division, S. Ashland Ave. at 29th St., Chicago
Fine Organics, Inc., 211 E. 19th St., N. Y.
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Gulf Oil Corp., Pittsburgh 30, Pa.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Place, Chicago
S. C. Johnson & Son, Racine, Wisc.
K. B. Chem. Co., Dunnell's Lane, Pawtucket, R. I.
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Knoxall Corp., 1005 E. Sumner Ave., Indianapolis
M. & H. Laboratories, 2703-5 Archer Ave., Chicago
Majestic Wax Co., 1600 Wynkoop St., Denver
Maloney Chem. Co., Green Bay, Wis.
Masury-Young Co., 76 Roland St., Boston
Midland Labs., Dubuque, Ia.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
North Coast Soap & Chem. Wks., Seattle, Wash.
Oil Specialties & Refining Co., 18 Bridge St., Bklyn.
Old Empire Inc., Mt. Prospect & Verona Aves., Newark, N. J.
Parlee Co., 310 E. St. Clair, Indianapolis, Ind.
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Pharmco, Inc., 22292 Lakeland Blvd., Cleveland 23
Rex-Cleanwall Corp., 238 S. Murphy Ave., Brazil, Ind.
Sanders Chem. Co., 2205 N. American St., Phila. 33
I. Schneid, Inc., 916 Ashby St., N.W., Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
Scranton Chemical Co., 161 Cedar Ave., Scranton, Pa.
Simoniz Co., 2100 Indiana Ave., Chicago 16
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Slick-Shine Co., 207-15 Astor St., Newark, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
John C. Stalfort & Sons, 319 W. Pratt St., Baltimore
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
John T. Stanley Co., 642 W. 30th St., N. Y.
H. F. Staples Co., Medford, Mass.
Surety Laboratories, 3946 Olive St., St. Louis 8
Tesco Chemicals, Inc., Atlanta 5, Ga.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Twi-Laq Chemical Co., 76 Grand Ave., Brooklyn
Twin City Shellac Co., 340 Flushing Ave., Brooklyn
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Vestal, Inc., 4963 Manchester St., St. Louis 10
Victory Chem. Co., 148 Fairmont Ave., Phila.
Warsaw Chem. Co., Warsaw, Ind.
T. F. Washburn Co., 2244 Elston Ave., Chicago
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Windsor Wax Co., Inc., 611 Newark St., Hoboken, N. J.

POLISHES, METAL

Ampion Corp., 4-88 — 47th Ave., L. I. City, N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
Banner Chemical Prod. Corp., 9 Calumet St., Newark, N. J.
Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Chem. Compounding Corp., 262 Huron St., Bklyn.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Click Chem. Corp., 601 S. Columbus Ave., Mount Vernon, N. Y.
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Co., Huntington, Ind.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2
Fine Organics, Inc., 211 E. 19th St., N. Y.
Franklin Research, 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Balto.
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, 14000 S. Seeley Ave., Blue Island, Ill.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Pl., Chicago
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
M. & H. Laboratories, 2703-5 Archer Ave, Chicago
Maloney Chem. Co., Green Bay, Wisc.
New Jersey Chemical Co., 56 Park Ave., Lyndhurst, N. J.
Noxon, Inc., 812 Jersey Ave., Jersey City, N. J.
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Old Empire Inc., Mt. Prospect & Verona, Newark, N. J.
Perrow Chemical Co., Hurt, Va.
Pharmco, Inc., 22292 Lakeland Blvd., Cleveland 23
Piatt & Smillie Chems., 2322 Olive St., St. Louis 3
J. L. Prescott Co., 27 8th St., Passaic, N. J.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Science Industries, 1509 N. Broadway, St. Louis
Simoniz Co., 2100 Indiana Ave., Chicago 16
Slick-Shine Co., 207-15 Astor St., Newark, N. J.
E. B. Snyder Labs., 2137 E. Harold St., Phila. 25
John C. Stalfort & Sons, 319 W. Pratt St., Baltimore
John T. Stanley Co., 642 W. 32nd St., N. Y.
Surety Laboratories, 3946 Olive St., St. Louis 8
Tesco Chemicals, Inc., Atlanta 5, Ga.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. Calif., Chicago
Warsaw Chem. Co., Warsaw, Ind.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23

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Bakelite Co., Div. Union Carbide & Carbon Corp., 30 E. 42nd St., N.Y. 17
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastman Chem. Prods., Kingsport, Tenn.
Fine Chemicals Co., 250 W. 57th St., N. Y. 19
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chemical Co., Springfield 2, Mass.
Semet-Solvay Petrochemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6

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Eastman Chem. Prods., Kingsport, Tenn.
Semet-Solvay Petrochemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6

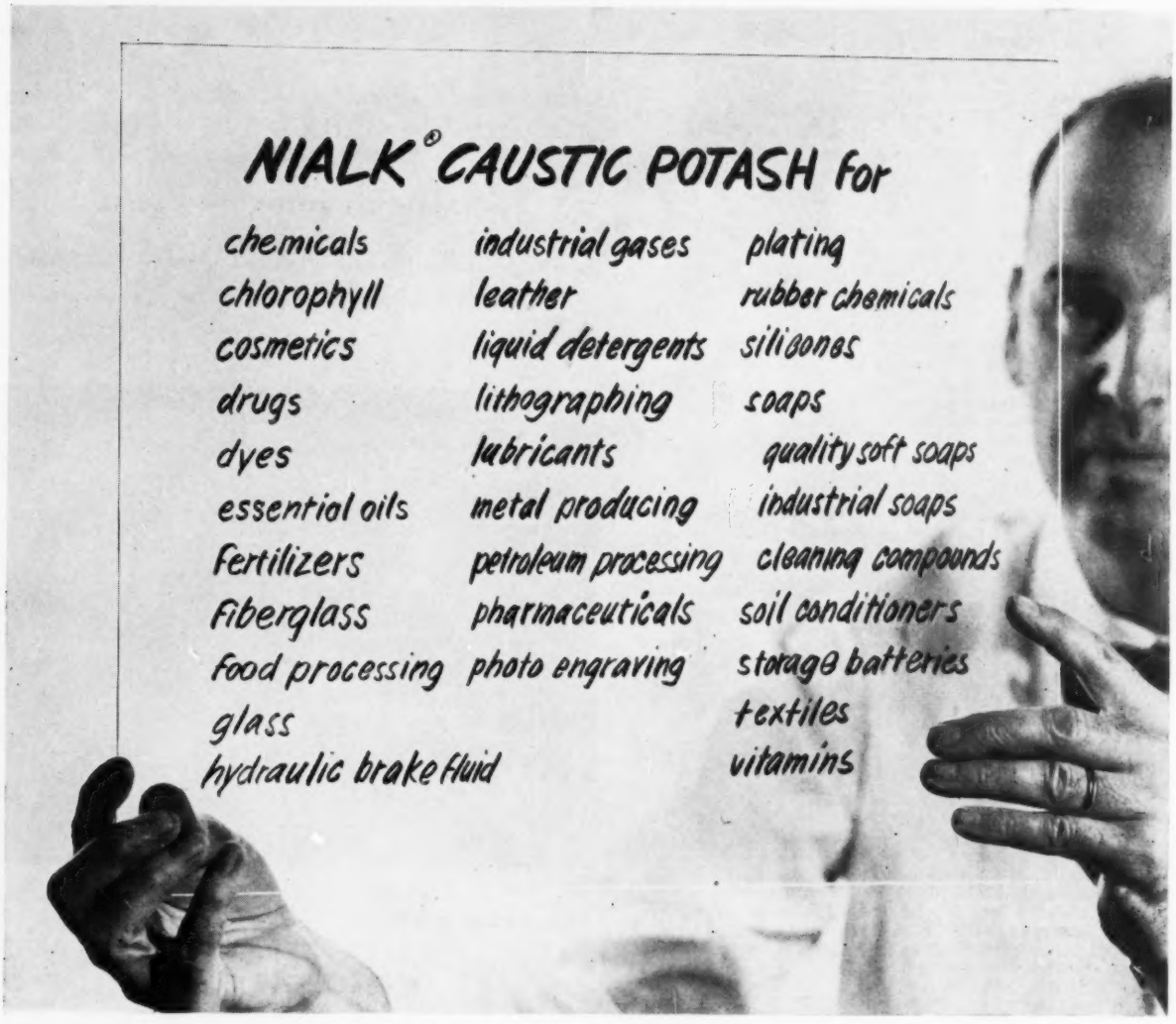
POLYETHYLENE GLYCOL

Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Dow Chem. Co., Midland, Mich.
Jefferson Chemical Co., Box 303, Houston, Tex.
Olin Mathieson Chem. Corp., Baltimore 3

POLYVINYLPYRROLIDONE (PVP)

General Aniline & Film Corp., 435 Hudson St., N. Y. 14

New Product Notes



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In each of these uses caustic potash does something no other alkali can do

In some soaps, for example, it's the greater ability of potash soaps to lather in cold water that's important.

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Making caustic potash takes skill, too. Getting it to you uncontaminated takes skill. Which is why you are sure of getting all the "extra" you pay for when you order NIALK® Caustic Potash.

You get the skill that pioneered caustic potash on this continent more than 50 years ago—the skill that now supplies a substantial part of U. S. requirements.

If you'd like to find out just why this skill has inspired such confidence, and how it might benefit your processing, write for our technical data sheet and bulletin on Nialk Caustic Potash.

You can get Nialk Caustic Potash in these forms and grades:

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Low-chloride grade 45%

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Eastman Chemical Products, Inc., Kingsport, Tenn.
Monsanto Chem. Co., Springfield, Mass.
Polyvinyl Chemicals, Inc., 26 Howley St., Peabody, Mass.
Semet-Solvay Petrochemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Shanco Plastics & Chemicals, Inc., 2 Mile Creek Rd., Tonawanda, N. Y.
UBS Chem. Corp., 491 Main St., Cambridge, Mass.

POTASH SOAPS (Soft Soaps, Liquid Soaps, Shampoo Soaps, etc.)

American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 4-88 – 47th Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Banner Chemical Products Corp., 9 Calumet St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y. C.
Colgate-Palmolive Co., 300 Park Ave., N. Y.
Creco Co., Creco Bldg., L. I. City, N. Y.
Crystal Soap & Chem. Co., 6300 State Rd., Phila. 35
Davies-Young Soap Co., Dayton, Ohio
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eagle Soap Corp., Huntington, Ind.
Essential Chemicals, 5906 N. Port Washington Rd., Milwaukee
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Hewitt Soap Co., Dayton, O.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Place, Chicago
J. Chemical Works, 602 W. 37th St., N. Y.
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Knoxall Corp., 1005 E. Sumner Ave., Indianapolis, Ind.
Kranich Soap Co., 54 Richards St., Brooklyn
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
M. & H. Laboratories, 2705 Archer Ave., Chicago
Midland Labs., Dubuque, Ia.
Mione Mfg. Co., Collingdale, Pa.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
North Coast Chem. & Soap Wks., Seattle, Wash.
N. Y. Soap Co., 258 Third St., Brooklyn
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Original Bradford Soap Wks., West Warwick, R. I.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis, Mo.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Piatt & Smillie Chemicals, 2322 Olive St., St. Louis 3
Reily Chemical Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
I. Schneid, Inc., 916 Ashby St., N.W., Atlanta, Ga.
Scientific Cosmetics, 242 W. 27th St., N. Y. C.
E. B. Snyder Laboratories, 2137 E. Harold St., Phila. 25
John T. Stanley Co., 642 W. 30th St., N. Y.
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Swift & Co., Chicago 9
Tesco Chemicals, Inc., Atlanta 5, Ga.
Thompson-Hayward Chemical Co., 2915 S.W. Blvd., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Wolf Soap Co., 254 Sheffield Ave., Bklyn.

POTASH (Caustic Potash)

(see also Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
Columbia-Southern Chemicals, Pittsburgh

COLUMBIA-SOUTHERN® *Chemicals*

FOR SOAP MAKING • SPECIAL MIXTURES • REPACKING

CAUSTIC SODA

Liquid.....50% and 73% NaOH
Solid.....76% Na_2O
Flake.....76% Na_2O, Fine and Medium

Columbia-Southern Caustic Soda is especially desirable for the manufacture of soap because of its freedom from impurities and metallic contamination. Liquid grades are shipped in special tank cars which first made practical the shipment of 73% Caustic Liquor in its purest form. Insulation effectively prevents crystallization and the patented lining prevents metallic contamination in transit.

Other grades test 98-100% Sodium Hydroxide (NaOH), equivalent to 76% Na_2O. Flake Caustic Soda is prepared in two grades of fine and medium sized flakes, free of dust. The finer grade is especially suitable for repacking for household use.

CAUSTIC POTASH

Furnished in standard grade of Solid and Flake, and as 50% concentration in Liquid.

Columbia-Southern Caustic Potash is another product of high quality and purity that soap-makers find excellent for use in liquid soap and soft soap manufacture.

SODA ASH—LIGHT AND DENSE

The original Columbia-Southern chemical. Over a half-century's experience in the manufacture of this essential chemical for soap makers has enabled Columbia-Southern to develop techniques and controls that assure uniform density and regularity of physical form and purity.

PACIFIC CRYSTALS

Pacific Crystals are a true sodium sesqui-carbonate—unmodified by mechanical mixing—of a tabular, crystalline structure and fine particle size. They are non-irritating, free-flowing, non-caking. They mix readily with dry materials and dissolve quickly in water.

The gentle, safe action of Pacific Crystals has made it widely accepted by repackers and compounders for many uses such as soap extenders, water softeners, laundry-textile-dairy-tanner's sodas, dishwashing compounds, silk degummers, general cleaning compounds. Pacific Crystals can be used directly in the crutcher in the manufacture of soap builders. Packed in 100 lb. paper bags.

PARA-DICHLOROBENZENE

Columbia-Southern Para-Dichlorobenzene sublimes readily leaving no residue, is soluble in most organic solvents but is insoluble in water. Available in a variety of mesh sizes to meet the needs of the soap industry in the manufacture of sanitary specialties and deodorants. Shipped in fiber drums, 200, 100, 50 and 25 lbs. net.

ORTHO-DICHLOROBENZENE

Columbia-Southern Ortho-Dichlorobenzene is a clear, colorless to slightly yellow liquid with a pungent but not unpleasant odor. It is readily soluble in most organic solvents, but is insoluble in water. Used in the preparation of special cleaning agents and for various degreasing compounds. Shipped in 55 gallon drums and 8,000 gallon tank cars.

PHOSFLAKE

Phosflake is a uniform blend of Caustic Soda and Tri-Sodium Phosphate, prepared in convenient flake form. Especially adapted to machine bottle washing—quick acting, easy to handle (minimizes dust particles that irritate the skin and throat of the operator), superior in sterilizing and rinsing properties.

MODIFIED SODAS

Mixtures of Sodium Carbonate and Sodium Bicarbonate. Especially useful in cleansing operations requiring a mild alkaline detergent-aid. Manufactured in three grades—No. 100, No. 200 and No. 300—with different degrees of alkalinity.

TECHNICAL SERVICE Columbia-Southern's Technical Service is available for developing the most advantageous uses of these or other Columbia-Southern products in your processes.

COLUMBIA-SOUTHERN CHEMICAL CORPORATION
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY
ONE GATEWAY CENTER, PITTSBURGH 22, PENNSYLVANIA

DISTRICT OFFICES: BOSTON • CHARLOTTE CHICAGO • CINCINNATI • CLEVELAND DALLAS • HOUSTON • MINNEAPOLIS NEW ORLEANS • NEW YORK • PHILADELPHIA • PITTSBURGH • ST. LOUIS SAN FRANCISCO

POTASH (Contd.)

Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chem. Co., Midland, Mich.
E. I. Dupont de Nemours & Co., Wilmington
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
International Min. & Chem. Corp., 20 N. Wacker Dr., Chicago
Monsanto Chem. Co., St. Louis
Olin Mathieson Chem. Corp., Baltimore 3
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Westvaco Chlor-Alkali Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y.

POTASSIUM CARBONATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
International Minerals & Chems. Corp., 20 N. Wacker Dr., Chicago
Merck & Co., Rahway, N. J.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.

POTASSIUM PERSULFATE

J. T. Baker Chem. Co., Phillipsburg, N. J.
Becco Chemical Div., Food Machy. & Chem. Corp., Buffalo 7, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Merck & Co., Rahway, N. J.
Penn. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Jos. Turner & Co., Ridgefield, N. J .

POTASSIUM PHOSPATES

General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Monsanto Chemical Co., St. Louis, Mo.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Westvaco Mineral Prods. Div., Food Mach. & Chem. Corp., 161 E. 42nd St., N. Y. 17

POTASSIUM SILICATE

Cowles Chem. Co., 7016 Euclid Ave., Cleveland 3
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Philadelphia Quartz Co., Public Ledger Bldg., Independence Sq., Phila. 6
Welch, Holme & Clark Co., 439 West St., N. Y.

POTASSIUM TETRABORATE

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
U. S. Borax & Chem. Corp., 100 Park Ave., N. Y. 17

POURING SPOUTS (see Can Spouts, Closures)

POWDERED SOAP (see Soap, Powdered)

PREMIUMS

Anchor Hocking Glass Corp., Lancaster, O.
Charles Brand Novelty Corp., 154 W. 27th St., N. Y. 1
Federal Tool Corp., 3600 W. Pratt Blvd., Chicago
Goody Mfg. Co., 15 E. 22nd St., N. Y. (novelties)
Hall Brothers, Show Shoe, Penna.
Hazel-Atlas Co., Wheeling, W. Va. (glassware)
Holgate Co., Kane, Pa., (woodenware toys)
Keystone Processed Prods. Co., 683 Broadway, N. Y.

PRESSES (Automatic Soap)

Houchin Machinery Co., Hawthorne, N. J.
R. A. Jones & Co., Cincinnati 1
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (used)
Meccaniche Moderne, Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)

PRESSES (Foot and Hand Lever for Soap and Para Cakes)

Houchin Machinery Co., Hawthorne, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
F. J. Stokes Mach. Co., Philadelphia, Pa.

PRIVATE BRAND FORMULATIONS (see listings under individual headings)

PRIVATE LABEL PACKAGING, FILLING (see Packaging for the trade)

PROPELLANTS (see Aerosol Propellants)

PROTECTIVE HAND CREAMS (see Hand Creams, Protective)

PUMICE

California Industrial Minerals Co., Friant, Calif.
LaRue-Axtell Pumice Co., Calaway, Nebr.
Pacific Coast Pumice Co., Bishop, Calif.
James J. Rhodes & Co., 157 W. Hubbard St., Chicago
Wm. R. Rogers, 80 Park St., Beverly, Mass.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Tamms Industries, Inc., 228 N. La Salle St., Chicago
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.

PROPYLENE GLYCOL

Amsco Sols. & Chems. Co., 4619 Reading Rd., Cincinnati
Buffalo Sols. & Chem. Co., Box 73, Sta. B, Buffalo, N. Y.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Central Sols. & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Sols. & Chems. Co., Dixie Highway at Appleton Lane, Louisville
Dow Chem. Co., Midland, Mich.
Hoosier Sols. & Chems. Co., 1650 Luett Ave., Indianapolis, Ind.
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Texas Sols. & Chems. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Sols. & Chems. Co., 1719 S. St., Milwaukee
Wolverine Sols. & Chems. Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.

PYRETHRUM FLOWERS AND POWDER (Insect Powder)

African Pyrethrum Development, Inc., 65 Pine St., N. Y. 5
Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
California Spray-Chemical Corp., Richmond, Calif.
Fairfield Chem. Div., 441 Lexington Ave., N. Y.
McCormick & Co., Baltimore, Md.
McLaughlin, Gormley, King Co., 1715 Fifth St., S.E., Minneapolis
S. B. Penick & Co., 50 Church St., N. Y.
John Powell Div., Olin-Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1

PYRETHRUM EXTRACT

African Pyrethrum Development, Inc., 65 Pine St., N. Y. 5
Fairfield Chem. Div., 441 Lexington Ave., N. Y.
McCormick & Co., Baltimore
McLaughlin, Gormley, King Co., 1715 Fifth St., S.E., Minneapolis
S. B. Penick & Co., 50 Church St., N. Y.
John Powell Div., Olin-Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1

PYROPHYLLITE

Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Glendon Pyrophyllite Co., Greensboro, N. C.
Minerals & Chems. Corp. of America, Menlo Park, N. J.
Tamms Industries, Inc., 229 N. La Salle St., Chicago
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.

QUATERNARY AMMONIUM COMPOUNDS

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, Div. GAF, 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Atlas Powder Co., Wilmington 99, Dela.
J. T. Baker Chemical Co., Phillipsburg, N. J.
Barger Chemicals, Inc., Main Ave., Norwalk, Conn.
Commercial Solvents Corp., 260 Madison Ave., N. Y. 17
E. I. du Pont de Nemours & Co., Wilmington
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
Fiber Chem. Corp., Matawan, N. J.
Fine Organics, 211 E. 19th St., N. Y. 3
Geigy Industrial Chem., Ardsley, N. Y.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Merck & Co., Rahway, N. J.

QUATERNARY AMMONIUM COMPOUNDS (Contd.)

Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2, N. J.
Oronite Chem. Co., 200 Bush St., San Francisco
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Rohm & Haas, 222 W. Washington Sq., Phila.
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

QUATERNARY AMMONIUM DISINFECTANTS (See Disinfectants, Quaternary Ammonium)

RAT EXTERMINATING PRODUCTS

Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
A-M-R Chem. Co., 985 E. 35th St., Bklyn. 18
California Spray-Chemical Corp., Richmond, Calif.
Chase Products Co., 1816 St. Charles Rd., Maywood, Ill.
Chem. Insecticide Corp., 129 Montague St., Bklyn.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Douglas Chem. Co., 620 E. 16th Ave., North Kansas City, Mo.
Eagle Soap Co., Huntington, Ind.
Exterminating Materials Co., 555 W. 22nd St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agric. Chems., Ardsley, N. Y.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Lethlin Products Co., Mt. Vernon, N. Y.
O. E. Linck Co., 51 James St., Montclair, N. J.
McLaughlin, Gormley, King Co., 1715 S.E. 5th St., Minneapolis
Monsanto Chem. Co., St. Louis
Motomco, Inc., Clark, N. J.
S. B. Penick & Co., 50 Church St., N. Y. C.
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Residex Corp., Foot of Centre St., Newark, N. J.
Sennewald Drug Co., 2723 Chouteau Ave., St. Louis
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Warsaw Chem. Co., Warsaw, Ind.
York Chem. Co., 23 Dean St., Bklyn. 1

RED OIL (Oleic Acid) (see also Brokers and Dealers)

Acme Hardesty Co., 60 E. 42nd St., N. Y.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
Armour & Co., 1355 W. 31st St., Chicago
Arnold, Hoffman & Co., 55 Canal St., Providence, R. I.
Capital City Prods. Co., Columbus 16, O.
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
Fine Organics, Inc., 211 E. 19th St., N. Y.
General Mills, Inc., Chemical Div., Kankakee, Ill.
A. Gross & Co., 295 Madison Ave., N. Y.
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Jos. Turner & Co., Ridgefield, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y.
Woburn Chem. Corp., 1200 Harrison Ave., Kearny, N. J.

REPELLENTS (See Insect Repellents)

RESINS, SILICONE

Dow-Corning Corp., Midland, Mich.
General Electric Co., Waterford, N. Y.
Silicones Div., Union Carbide & Carbon Corp., 30 E. 42nd St., N. Y. 17

RESINS, Synthetic

Alkydol Laboratories, Inc., 3242 S. 50th Ave., Cicero, Ill.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Archer-Daniels-Midland Co., Minneapolis 2

RESINS, SYNTHETIC (Contd.)

Bakelite Co., Div. Union Carbide & Carbon Corp., 30 E. 40th St., N. Y.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Cato Chemical Co., 116 S. York St., Elmhurst, Ill.
Crosby Chemicals, Inc., Picayune, Miss.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Durez Plastics Div., Hooker Electrochemical Co., N. Tonawanda, N. Y.
General Mills, Inc., Chemical Div., Kankakee, Ill.
B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland 15
Hercules Powder Co., 961 Market St., Wilmington, Dela.
Krumbhaar Chemicals, Inc., South Kearny, N. J.
Monsanto Chemical Co., Springfield, Mass.
Neville Chemical Co., Pittsburgh, Pa.
Pennsylvania Industrial Chemical Corp., Clairton, Pa.
Polyvinyl Chemicals, Inc., 26 Howley St., Peabody, Mass.
Reichhold Chemicals, Inc., White Plains, N. Y.
Rohm & Haas Co., Resinous Products Div., 222 W. Washington Sq., Philadelphia
Schenectady Resins, 200 Congress St., Schenectady, N. Y.
Semet-Solvay Petrochemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Shanco Plastics & Chemicals, Inc., 2 Mile Creek Rd., Tonawanda, N. Y.
Shell Chemical Corp., 50 W. 50th St., N. Y. 20
Synvar Corp., Wilmington, Dela.
UBS Chem. Corp., 491 Main St., Cambridge, Mass.
Velsicol Corp., 330 E. Grand Ave., Chicago
T. F. Washburn Co., 2244 Elston Ave., Chicago

RESINS, NATURAL (see Gums)

RESPIRATORS (See Gas Masks)

RHODINOL (see Aromatic Chemicals)

ROACH PASTE

John Opitz, Inc., 50-14 39th St., L. I. City, N. Y.
Sennewald Drug Co., 2733 Chouteau Ave., St. Louis
York Chemical Co., 23 Dean St., Bklyn.

ROACH POWDERS (see Household Insecticides, Powder)

RODENTICIDES (See Rat Exterminating Products)

ROOM DEODORANTS (See lists under Aerosol Room Deodorants, Glyco Sprays, Theatre Sprays.)

ROSIN

American Turp. Farmers Assn., Valdosta, Ga.
Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Buffalo Sols. & Chems. Co., Box 73, Sta. B, Buffalo
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Crosby Chemicals, Inc., Picayune, Miss.
Dixie Pine Prods. Co., Hattiesburg, Miss. (wood)
Dixie Solvents & Chems. Co., Dixie Highway & Appleton Lane, Louisville, Ky.
General Mills, Chemical Div., Kankakee, Ill.
Georgia Rosin Prods. Co., Brunswick, Ga.
Glidden Co., Jacksonville, Fla.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y.
Industrial Chem. Sales Div., West Va. Pulp & Paper Co., 230 Park Ave., N. Y.
Hoosier Solvents & Chemicals Corp., 1650 Luett St., Indianapolis
Missouri Solvents & Chems. Co., 419 DeSoto, St. Louis
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Phoenix Naval Stores Co., Gulfport, Miss. (wood)
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Texas Solvents & Chem. Co., 8501 Market St., Houston
Union Bag-Camp Paper Corp., 233 Broadway, N. Y.
Wax & Rosin Prods., 42 Broadway, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chems. Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solvents & Chems. Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.

ROSIN SOAPS (See Laundry Soap)

ROTENONE and ROTENONE FORMULATIONS

Agicide Laboratories, 1717 Taylor Ave., Racine, Wis.
Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Insecticide Corp., 129 Montague St., Bklyn.
Chipman Chem. Co., Bound Brook, N. J.
Dodwell & Co., 120 Wall St., N. Y. 5
Douglas Chem. Co., 620 E. 16th St., North Kansas City, Mo.
Fairfield Chem. Div., 441 Lexington Ave., N. Y.
Geigy Agricultural Chemicals, Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
McCormick & Co., Baltimore, Md.
Miller Prods. Co., 1932 S. W. Water Ave., Portland, Ore.
S. B. Penick & Co., 50 Church St., N. Y.
Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. Market St., Kansas City, Kan.
Quinn Drug & Chem. Co., Greenwood, Miss.
York Chem. Co., 23 Dean St., Bklyn. 1

RUG and UPHOLSTERY CLEANERS

Ampion Corp., 4-88 47th Ave., L. I. City, N. Y.
Analab Laboratories, 285 Franklin St., Boston 10
Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Brilco Labs., 1553–63rd St., Bklyn. 19
Buckingham Wax Corp., Van Dam St. & Borden Ave., L. I. City
Candy & Co., 2515 W. 35th St., Chicago
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prod. Co., 3100 S. Throop St., Chicago
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Clifton Chemical Co., 62 William St., N. Y.
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Continental Industries, Inc., Brazil, Ind.
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Davies-Young Soap Co., Dayton, O.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Co., Huntington, Ind.
Essential Chem. Co., 5906 N. Port Washington Rd., Milwaukee
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Franklin Research, 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila. 37
Hysan Prods. Co., 936 W. 38th Place, Chicago
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Kemiko Mfg. Co., 500 Chancellor Ave., Irvington, N. J.
Klix Chem. Co., 551 Railroad Ave., South San Francisco, Calif.
M. & H. Laboratories, 2705 Archer Ave., Chicago
M. Michel & Co., 90 Broad St., N. Y.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
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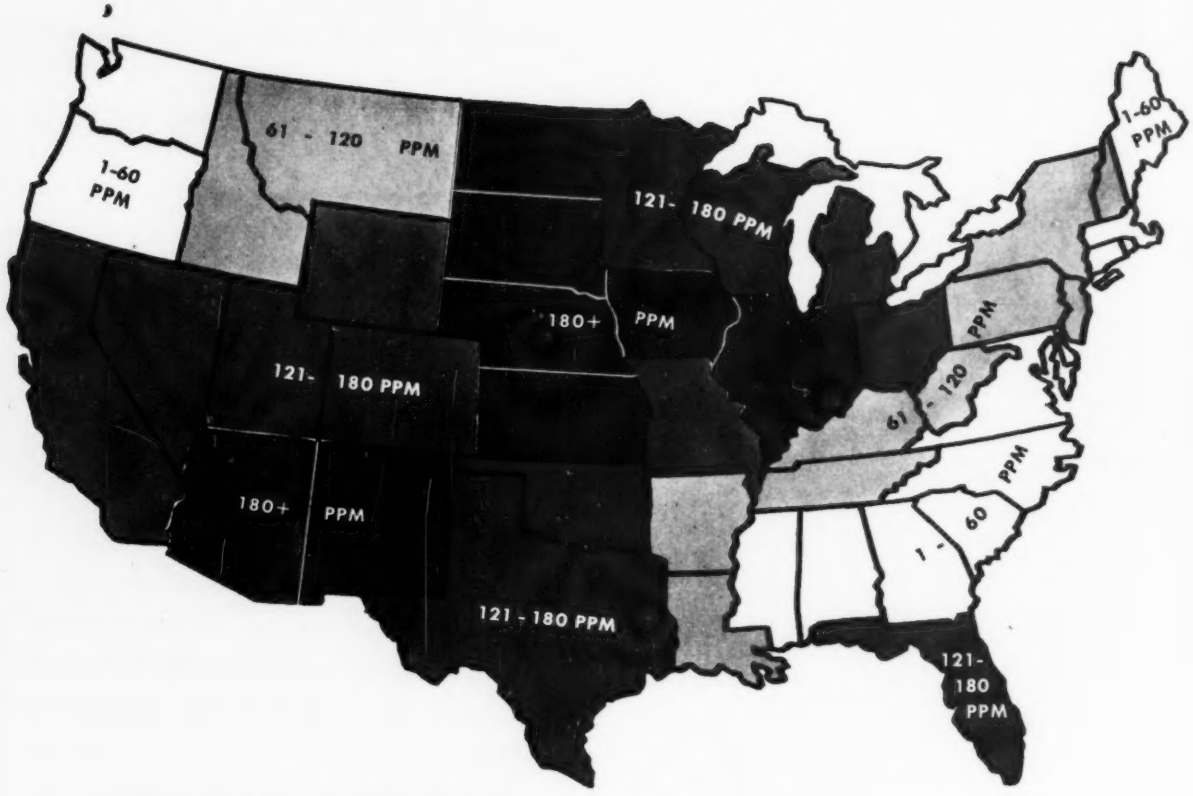

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Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Oronite Chemical Co., 200 Bush St., San Francisco 4
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis 4
Pilot California Co., 215 W. 7th St., Los Angeles 14
Procter & Gamble Dist. Co., Cincinnati
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Stanalchem Inc., 350 Madison Ave., N. Y. 17
John T. Stanley Co., 642 W. 30th St., N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

SHAVING CREAM (Soap and Brushless)

Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Davies-Young Soap Co., Dayton 1, O.
Eagle Soap Co., Huntington, Ind.
Lightfood Schultz Co., 380 Madison Ave., N. Y.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Pharmco, Inc., 22292 Lakeland Blvd., Cleveland 23
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.

SHAVING CREAM BASE

E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Refined Prods. Corp., Lyndhurst, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Schmidt Soap Products Co., 236 W. North Ave., Chicago
John T. Stanley Co., 642 W. 30th St., N. Y.
Van Dyk & Co., Belleville 9, N. J.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

SHELLAC

Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
Bradshaw Praeger & Co., 3248 W. 47th Place, Chicago

SHELLAC (Cont.)

Wm. Diehl & Co., 114 E. 56th St., N. Y. 18
Gillespie-Rogers-Pyatt Co., 75 West St., N. Y.
Haeuser Shellac Co., 52-64 Warren St., Bklyn.
Mac-Lac Co., Inc., 33 Rector St., N. Y. 6
Mantrose Corp., 1 Hanson Pl., Brooklyn, N. Y.
F. H. Paul & Stein Bros., Inc., 235 Fifth Ave., N. Y.
Wm. Zinsser & Co., 516 W. 59th St., N. Y.

SHELLAC WAX

Bradshaw Praeger & Co., 3248 W. 47th Pl., Chicago
Gillespie-Rogers-Pyatt Co., 75 West St., N. Y.
Mac-Lac Co., 33 Rector St., N. Y. 6
Mantrose Corp., 1 Hanson Pl., Brooklyn
William H. Scheel, Inc., 38 Franklin St., Bklyn. 22
F. H. Paul & Stein Bros., 235 5th Ave., N. Y. 16
Stromeyer & Arpe Co., 139 Franklin St., N. Y. 13
Wm. Zinsser & Co., 516 W. 59th St., N. Y.

SHIPPING CASES (see Boxes, Corrugated or Fiber)

SHOE POLISHES (Leather Dressings) For The Trade

Asco Chemical Co., 641 Lexington Ave., Bklyn.
Chem. Service of Balto., Howard & West Sts., Balto.
James Good, Inc., 2107 Susquehanna Ave., Phila.
Help, Inc., 122 W. Kinzie St., Chicago
R. M. Hollingshead Corp., Camden, N. J.
K. B. Chem. Co., Dunnell's Lane, Pawtucket, R. I.
D. S. Lesnever & Son, 213 Summer St., Lynn, Mass.
H. F. Staples Co., Medford, Mass.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Windsor Wax Co., 611 Newark St., Hoboken, N. J.
Walco Prods., Inc., 36 Woodland St., Hartford, Conn.

SHOE POLISH DAUBERS

Alba Cork Co., 93 Oxford Ave., Jersey City, N. J.
American Cork Specialties Co., 140 Junius St., Brooklyn
Applicator Brush Co., 100 Water St., Brooklyn, N. Y.
Applicator Co., 163 13th St., Brooklyn, N. Y.
Armstrong Cork Co., Lancaster, Pa.
Ox Fiber Brush Co., Frederick, Md.

SIFTER TOP CANS (see Cans, Sifter Top)

SIFTING AND SCREENING EQUIPMENT

B. F. Gump Co., 1338 S. Cicero Ave., Chicago
J. H. Day Co., 4932 Beech St., Norwood, Cincinnati
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)
Ludlow-Sayer Wire Co., St. Louis, Mo.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Orville Simpson Co., 1230 Knowlton St., Cincinnati
Read-Standard Corp., York, Pa.
Simplicity Engineering Co., Durand, Mich.
Sprout, Waldron & Co., Muncy, Pa.
Stephens-Adamson Mfg. Co., Aurora, Ill.
Sturtevant Mill Co., Boston, Mass.
Wickwire Spencer Steel Div., 575 Madison Ave., N. Y.

SILICA

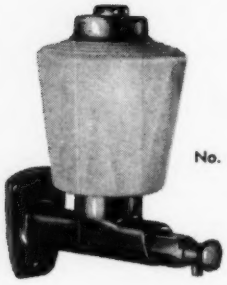
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Dicalite Div., 612 S. Flower St., Los Angeles, Calif.
Illinois Silica Co., Cairo, Ill.
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y.
Robeco Chemicals Inc., 23 E. 26th St., N. Y. C.
Silica Prods. Co., 700 Baltimore Ave., Kansas City, Mo.
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
Charles A. Wagner Co., 4455 N. 6th St., Phila. 23
Welch, Holme & Clark Co., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.
Witco Chemical Co., 122 E. 42nd St., N. Y.

SILICOFLUORIDES (see Sodium Silicofluoride)

SILICONES

Dow-Corning Corp., Midland, Mich.
General Electric Co., Waterford, N. Y.
Silicones Div., Union Carbide & Carbon Corp., 420 Lexington Ave., N. Y.

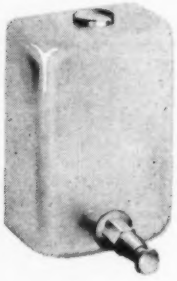
7 Star Soap Salesmen!



No. 425

Moore Brothers can help you reap lots more dollars from soap sales, with 25 styles of attractive, durable and smooth-operating dispensers for liquid, lather or powder soaps. Dispensers priced for every requirement . . . designed for all types of installations.

WRITE FOR OUR CATALOG SHEETS AND PRICE LISTS TODAY!



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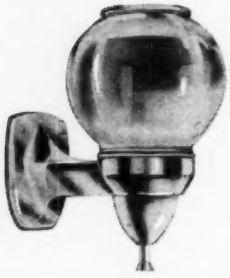

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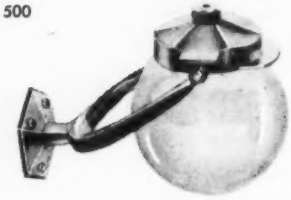

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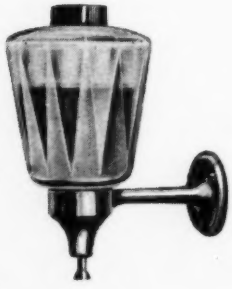

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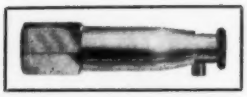

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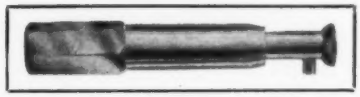


No. 650

QUALITY-PROVEN SOAP DISPENSERS AND DISPENSING EQUIPMENT

MOORE BROTHERS COMPANY

100 WARREN STREET **NEW YORK 7, N. Y.**

SKIN CLEANERS (see Hand Soaps)

SOAP AND DETERGENT PLANT ENGINEERING

J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Meccaniche Moderne, Corso Sempione 51, Buste Arsizio, Italy
Orenite Chem. Co., 200 Bush St., San Francisco
Project Construction Corp., 39 Broadway, N. Y. 6
Sharples Corp., 2300 Westmoreland St., Phila. 40
Henry Simon Ltd., Stockport, Cheshire, England
Foster D. Snell, 29 W. 15th St., N. Y. 11
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

SOAP BARK (see Saponin)

SOAP BOOKS (see Soap Paper)

SOAP, CASTILE (see Castile Soap)

SOAP, CHIP (see Chip Soap)

SOAP DIES

Anthony J. Fries & Son Co., 717 Sycamore St., Cincinnati
Houchin Machinery Co., Hawthorne, N. J.
R. A. Jones & Co., Cincinnati
Jas. H. Matthews & Co., 3942 Forbes St., Pittsburgh
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 36th St., Chicago
I. Schwartz Engraving & Die Works, 241 Lafayette St., N. Y.

SOAP DISPENSERS (Lathering)

American Dispenser Co., 860 Broadway, N. Y. 3
Armour & Co., 1355 W. 31st St., Chicago 9
Bobrick Dispensers, Inc., 1216 Nostrand Ave., Bklyn. 25
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Products Co., 936 W. 38th Pl., Chicago
Imperial Brass Co., 1237 W. Harrison Ave., Chicago
Moore Bros. Co., 100 Warren St., N. Y.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
Palmer Fixture Co., Waukesa, Wisc.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
Uncle Sam Chem. Co., 573 W. 131st St., N. Y. 27
Vestal, Inc., 4963 Manchester St., St. Louis 10

SOAP DISPENSERS (Powder)

Ace Dispenser Co., 100 Broadway, Buffalo, N. Y.
American Dispenser Co., 860 Broadway, N. Y. 3
Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Bobrick Dispensers, Inc., 1216 Nostrand Ave., Bklyn. 25
Chem. Service of Balto., Howard & West Sts., Balto.
Hysan Prods. Co., 936 W. 48th Place, Chicago
Moore Bros. Co., 101 Warren St., N. Y.
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Palmer Fixture Co., Waukesha, Wisc.
Sugar Beet Prods. Co., Saginaw, Mich.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Borax & Chem. Corp., 100 Park Ave., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. Calif. Ave., Chicago 12
Utility Co., 636 W. 44th St., N. Y. 36

SOAP DISPENSERS (Liquid)

Ace Dispenser Co., 100 Broadway, Buffalo, N. Y.
Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
American Dispenser Co., 860 Broadway, N. Y. 3
Armour & Co., 1355 W. 31st St., Chicago 9
Bobrick Dispensers, Inc., 1216 Nostrand Ave., Bklyn. 25
Chem. Service of Balto., Howard & West Sts., Balto.
Cilfton Chemical Co., 62 William St., N. Y. C.
Dema Engineering Co., 8333 Gravois Ave., St. Louis
Eagle Soap Corp., Huntington, Ind.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Place, Chicago
Imperial Brass Co., 1237 W. Harrison St., Chicago
Moore Bros. Co., 101 Warren St., N. Y.
National Dispenser Co., 230 W. 116th St., Los Angeles (paste)
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis, Mo.

By any yardstick . . .

QUALITY

DEPENDABILITY

APPEARANCE

JOBBER PROFITS

BOBRICK SOAP DISPENSERS

always measure up to the highest standards!

IN ALL PRICE RANGES

New!

BOBRICK 33CP
Top quality Universal-Adjustable powder dispenser. Dispenses any free flowing powdered hand cleaner.

BOBRICK 38
Lowest price Universal-Adjustable powdered soap dispenser on the market.

BOBRICK 39
Lowest price Universal-Adjustable all-metal powder dispenser on the market.

New!

BOBRICK 25
All Stainless Steel and shatterproof Lustrex liquid dispenser. Top quality. Contemporary design.

BOBRICK 18MG
The only low-price all metal liquid dispenser on the market.

BOBRICK 13
Lowest price top-filled liquid dispenser with cemented globe. Unbreakable body.

New!

BOBRICK 45
Top quality lather dispenser. Crafted of Stainless Steel and shatterproof Lustrex.

BOBRICK 12 CP
Top quality liquid dispenser. A big seller with school systems.

BOBRICK 18
Finest chrome plated liquid dispenser in the low price field.

BOBRICK 47 CP
Highest quality lather dispenser. The preference of many schools.

FOR DISTRIBUTORS AND DEALERS ONLY: An effective way to help your salesmen sell more soap is to give them the best selling DISPENSERS—BOBRICK SOAP DISPENSERS. Bobrick's complete line of trouble-free dispensers *do* measure up to the highest standards, *do* keep your customers happy, and *do* keep the soap—*and soap sales*—flowing steadily.

You reduce transportation and paper work costs when you buy from Bobrick. You can purchase different dispensers on the same order to take best advantage of discounts—and, Bobrick's published Jobber's Price List is the *only* price list.

8 CONVENIENT SHIPPING POINTS—ATLANTA • BROOKLYN CHICAGO • HOUSTON • LOS ANGELES. In CANADA: MONTREAL TORONTO • VANCOUVER.

NEW DISTRIBUTORS AND DEALERS: Your inquiries are invited. You don't have to buy in gross lots to get Bobrick's lowest quantity price. An order for only one dozen assorted dispensers will give you a basic stock for your customers' selection, still assuring you of competitive profit opportunities. And remember—Bobrick Dispensers are sold to the consumer *only through YOU.*

WRITE TODAY *for full information on Bobrick's PROFIT BUILDING line. See our new Golden Anniversary catalog, Jobber's Price List (with Profit Hints) and samples of our no-cost-to-you promotional aids.*

BOBRICK SOAP DISPENSERS

Established 1906

Dept. SBB 1214 Nostrand Avenue, Brooklyn 25, N. Y.
1839 Blake Avenue, Los Angeles 39, Calif.

SOAP DISPENSERS (LIQUID) (Contd.)

Palmer Fixture Co., Waukesha, Wisc.
Sugar Beet Prods. Co., Saginaw, Mich.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago

SOAP DISPENSERS (Surgical)

American Dispenser Co., 860 Broadway, N. Y. 3
Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Bobrick Dispensers, Inc., 1216 Nostrand Ave., Bklyn. 25
Eagle Soap Co., Huntington, Ind.
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Moore Bros. Co., 101 Warren St., N. Y.
Palmer Fixture Co., Waukesha, Wisc.
Ped-O-Flo Co., Waverly, Iowa
Vestal, Inc., 4963 Manchester St., St. Louis
U. S. Sanitary Spec. Corp., 1001 S. California Ave., Chicago 12
Uncle Sam Chem. Co., 573 W. 131st St., N. Y. 27

SOAP DISPENSERS (Multi-unit Systems with Tanks)

Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
American Dispenser Co., 860 Broadway, N. Y. 3
Bobrick Dispensers, Inc., 1216 Nostrand Ave., Bklyn. 25
Hysan Prods. Co., 936 W. 38th Place, Chicago
Imperial Brass Co., 1237 W. Harrison St., Chicago
Moore Bros. Co., 101 Warren St., N. Y.
Palmer Fixture Co., Waukesha, Wis.
Spraying Systems Co., 3217 Randolph St., Bellwood, Ill.
Uncle Sam Chemical Co., 575 W. 131st St., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. Calif. Ave., Chicago 12
West Disinfecting Co., Long Island City, N. Y.

SOAP DISPENSERS, for attaching to drums. (See Soap Solutionizing Devices.)

SOAP DRYERS (Continuous for CHIP SOAPS)

Houchin Machinery Co., Hawthorne, N. J.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Procter & Schwartz, 7th St. & Tabor Rd., Phila.
C. G. Sargent's Sons Corp., Graniteville, Mass.
Henry Simon Ltd., Stockport, Cheshire, England
F. J. Stokes Machine Co., Phila. 20

SOAP DRYING MACHINERY (General), (see drying machinery)

SOAP, FLOATING (see Floating Soaps)

SOAP FRAMES

Houchin Machinery Co., Hawthorne, N. J.
Littleford Bros., 451 E. Pearl St., Cincinnati
Loeb Equipment Supply Co., 810 Superior St., Chicago (used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago

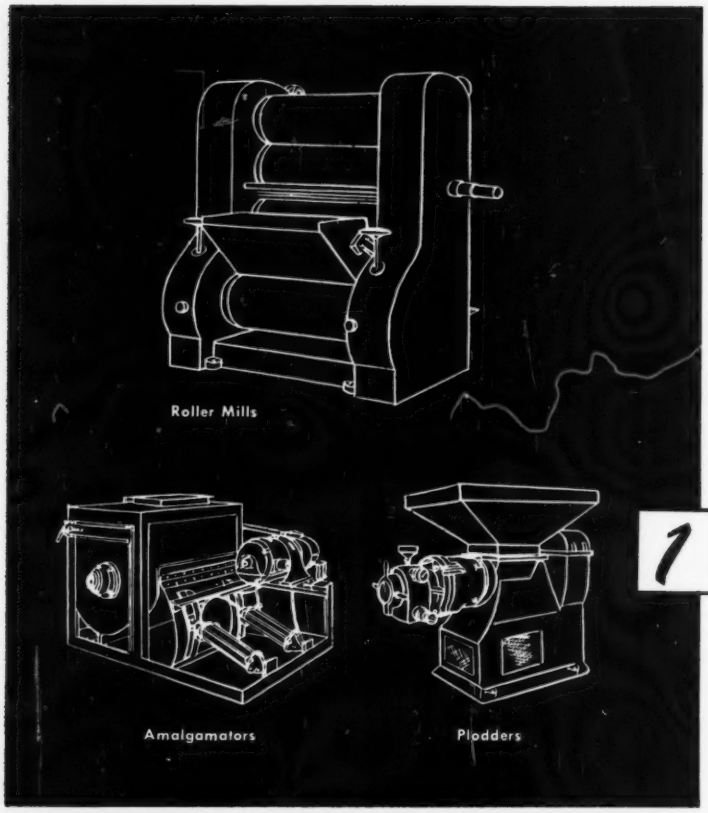
SOAP, GREEN (see Potash Soaps)

SOAP, HAND (see Hand Soaps)

SOAP, HARD WATER (see Hard Water Soaps)

SOAP KETTLES

Bethlehem Foundry & Mach. Co., Grand Cent. Bldg., N. Y.
Bennett Industries, Peotone, Ill.
S. Blickman, Inc., 72 Gregory Ave., Weehawken, N. J.
Conn & Co., Warren, Pa.
J. H. Day Co., 4932 Beech St., Norwood, Cincinnati
Edge Moor Iron Wks., 30 Rockefeller Plaza, N. Y.
Filpaco Industries, 2464 S. Michigan Ave., Chicago
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark 5, N. J.
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
Littleford Bros., 443 E. Pearl St., Cincinnati
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)



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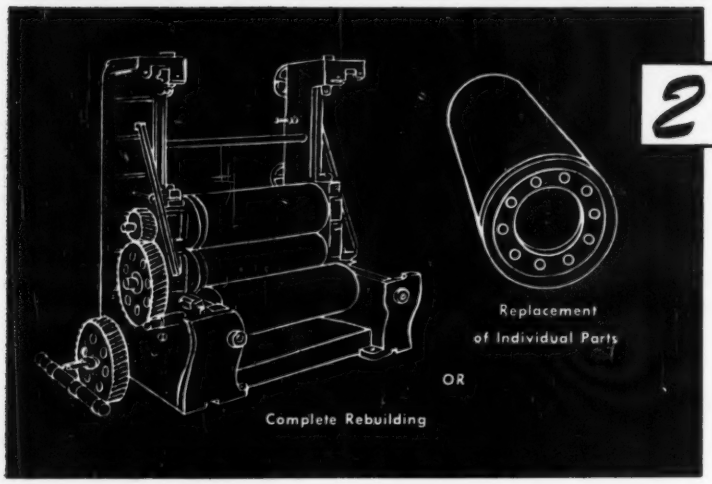
. . . A complete line of standard units for improving returns from present operations or **"custom" machines built to suit your changing requirements.** Mills of all sizes, Preliminary and Finishing Plodders, Tilting Type and Bottom Dump Amalgamators . . . designed and engineered with the user in mind, in every construction detail.



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Lammert & Mann Co.
Chicago 12, Illinois

J. M. Lehmann Co., Inc.
Lyndhurst, New Jersey

SOAP KETTLES (Contd.)

Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Read Standard Corp., York, Pa.
Sowers Mfg. Co., 1296 Niagara St., Buffalo, N. Y
Struthers-Wells Co., Warren, Pa.

SOAP, LAUNDRY (see Laundry Soap)

SOAP, LIQUID

American Soap & Washoline Co., Cohoes, N. Y.
Ampion Corp., 4-88—47th Ave., L. I. City, N. Y.
Antiseptol Co., 5524 Northwest Highway, Chicago
Armour & Co., 1355 W. 31st St., Chicago 9
Baird & McGuire, Inc., Holbrook, Mass.
Banner Chemical Products Corp., 9 Calumet St., Newark, N. J.
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Brilco Laboratories, 1553 63rd St., Bklyn, 19
Buckingham Wax Co., 51-03 Van Dam St., L. I. City, N. Y.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Clifton Chemical Co., 62 William St., N. Y. C.
Colgate-Palmolive Co., 300 Park Ave., N. Y.
Creco Co., Creco Bldg., L. I. City, N. Y.
Crystal Soap & Chem. Co., 6300 State Rd., Phila. 35
Davies-Young Soap Co., Dayton, Ohio
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eagle Soap Co., Huntington, Ind.
Essential Chemicals, 5906 N. Port Washington Rd., Milwaukee
Fine Organics, Inc., 211 E. 19th St., N. Y. 3
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila.
Haag Laboratories, Inc., 1400 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Philadelphia
Hewitt Soap Co., Dayton, O.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Place, Chicago
J. Chemical Works, 602 W. 37th St., N. Y.
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Knoxall Corp., 1005 E. Sumner Ave., Indianapolis, Ind.
Kranich Soap Co., 54 Richards St., Brooklyn
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
M. & H. Laboratories, 2705 Archer Ave., Chicago
Midland Labs., Dubuque, Ia.
Mione Mfg. Co., Collingdale, Pa.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
National Soap Co., 357 South 25th St., Tacoma, Wash.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
North Coast Chem. & Soap Wks., Seattle, Wash.
N. Y. Soap Co., 258 Third St., Brooklyn
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Original Bradford Soap Wks., West Warwick, R. I.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis, Mo.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Piatt & Smillie Chemicals, 2322 Olive St., St. Louis 3
Reily Chemical Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
Rochester Germicide Co., 333 Hollenbeck St., Rochester 5, N. Y.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
I. Schneid, Inc., 916 Ashby St., N.W., Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
E. B. Synder Laboratories, 2137 E. Harold St., Phila. 25
John T. Stanley Co., 642 W. 30th St., N. Y.
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Swift & Co., Chicago 9
Tesco Chemicals, Inc., Atlanta 5, Ga
Thompson-Hayward Chemical Co., 2915 S.W. Blvd., Kansas City, Mo.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Wolf Soap Co., 254 Sheffield Ave., Bklyn.

SOAP MACHINERY

Buhler Bros., Inc., 2121 State Highway No. 4, Fort Lee, N. J.
Houchin Machinery Co., Hawthorne, N. J.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.

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you can rely on NEWMAN'S

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in new, used and reconditioned
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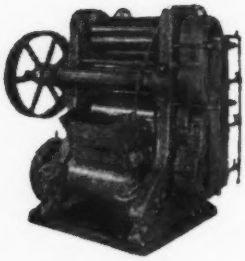
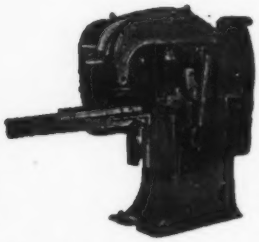


TOILET SOAP MILLS
3 Roll — 4 Roll — 5 Roll
STEEL and Granite Rolls



JONES Horizontal Type AUTOMATIC combination laundry and toilet soap presses. Single or Double Kick.

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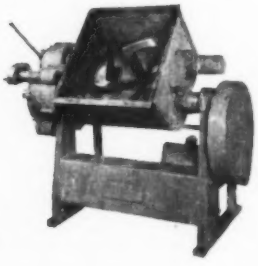
is now available to you whether you are building a complete plant or need technical assistance in selecting the proper unit for replacement or expansion. Our new *Service Division* is experienced in the latest developments in the fields of *Soap, Synthetic Detergents,* and *Chemical Specialties,* and is ready to *consult* with you on problems involving Plant Design and Operation, Equipment Application, Formulation and Chemical Control.



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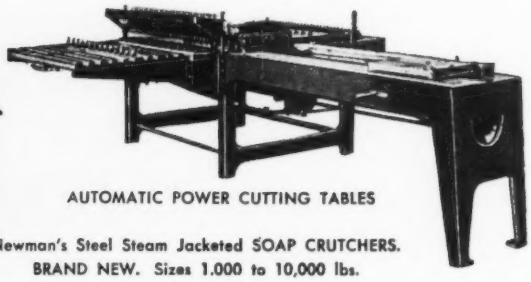
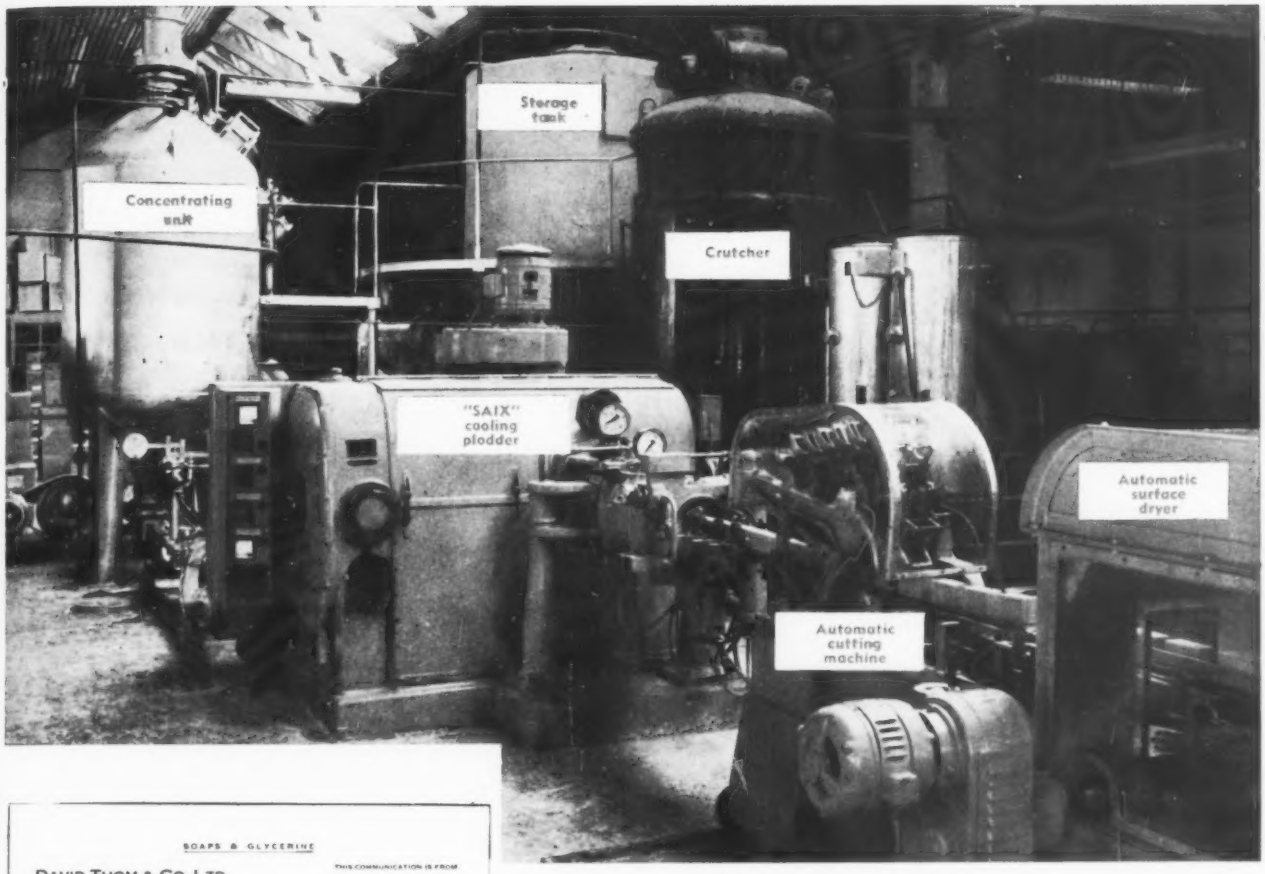


AUTOMATIC POWER CUTTING TABLES

Newman's Steel Steam Jacketed SOAP CRUTCHERS. BRAND NEW. Sizes 1,000 to 10,000 lbs.



SOAPS & GLYCERINE

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LANES

THIS COMMUNICATION IS FROM
Office

Telephone PENDLETON 1212, 1213
Telegrams "THOM MANCHESTER"

JTT/AW.

14th July, 1955.

Messrs. Meccaniche Moderne,
Casella Postale 190,
BUSTO ARSIZIO,
Italy.

Dear Sirs,

We are very pleased to inform you that your SAIX RC Cooling Plodder is working most satisfactorily.

We are now utilising the machine for all our Bar Soap production which includes a wide variety of soaps all varying qualities and formulations.

We have found from experience that these soaps are far superior to soaps made by the older conventional methods. They have better working and lathering properties and also do not distort or twist in storage.

The savings in labour and scrap soap have far exceeded our expectations. The guaranteed output has been maintained in practice and the power and water consumption are well within your specifications.

In our opinion this machine is the most revolutionary piece of machinery introduced in the soap making industry in recent years. We can assure you of our complete satisfaction with its performance in all respects, and also we much appreciate the helpful service and advice which has been offered by you at every stage during the erection and trial periods.

We have every confidence in recommending this machine to any producer of household soap.

Yours faithfully,

John T. Terleski

Dr.J.T.Terleski. (Director).

Photograph of a "SAIX" plant capable of producing automatically one ton of household soap per hour.

"SAIX" TYPE AUTOMATIC COOLING PLODDER — MOST UP-TO-DATE PLANT FOR THE CONTINUOUS FINISHING OF SOAPS

"SAIX" cooling plodder performs six otherwise separate operations: it chills, homogenizes, controls internal texture of the soap, perfumes, gives translucency if required, and extrudes the soap as a continuous bar of any desired size.

"SAIX" performs these six steps under air tight conditions.

"SAIX" Versatility: Fats of high or low titer and containing high or low moisture content are processed rapidly and efficiently into good quality soaps:
● **pure 62-63% T.F.M. soaps** (containing 28% moisture) ● **filled soaps** (100% sodium silicate — **bentonite — soda ash, etc.**) **down** to 35% T.F.M. ● soaps made with 100% coconut oil ● **dried soaps, pure or filled, up to 72-73% T.F.M.** ● **high rosin content soaps** (up to 25-30% of rosin on fatty acids) ● **toilet soaps** ● transparent soaps, without the addition of sugar, soda ash, alcohol, glycerine, etc. ● **medicinal soaps** (**carbolic soap, phenol soap, etc.**) ● **industrial soaps** ● **laundry soaps** ● soaps made with olive oil foots, etc.

Main advantages over competitive plants on the market: When using the "SAIX" cooling plodder soap need not be dried in order to effect cooling by water evaporation, resulting in the following economies from the use of "SAIX" equipment:

● 100% savings on steam, **50% on cooling water, 50% on electrical power, 70% on labor** ● "SAIX" produces soaps crystallized up to 100% in "beta" phase ● Warm water up to (+28° C) can be used to cool the soap, always getting a firm bar ● **Production capacity: "SAIX" is manufactured for the following capacities: 0.1, 0.25, 0.5, 1, 2, 3 and more tons per hour** ● "SAIX" can be run by an unskilled operator ● **"SAIX" can extrude soaps containing from 35% up to 74% fatty acids which can be cut, stamped and packaged immediately without scraps** ● **"SAIX" refines and homogenizes the texture of soap getting a finished bar free from end markings and stripes** ● **Transparent soaps produced by a "SAIX" require no further milling and plodding for uniform texture and transparency** ● **Complete guarantee is given that there are absolutely no changes in fatty acids and moisture percentages between the hot liquid soap fed into the "SAIX" and the resulting bar soap.**

● **"SAIX" units can be supplied alone or complete with additional equipment:** concentrating unit, **automatic cutting machine, automatic tunnel, automatic stamping machine, storage tank, soap crutcher** ● **"SAIX" extrudes soap without any worm to force the soap in the compression cone: these worms require the use of high melting point fats and reduce the natural moisture contents of the soap** ● **"SAIX" extrudes firmer bars which retain their shape in storage** ● **"SAIX" allows maximum economy in space** ● **MECCANICHE MODERNE are also makers of: complete plants for toilet and chip soaps, chipping machines, chilling rolls, soap driers, soap conveyors, silos, soap weighing machines, stamping machines, toilet soap pilot plants, plate and frame cooling presses** ● Continuous automatic sulfonating plants, "SULFAN" type from 0.1 to 0.5 tons per hour and more capacity, **spray driers for soap and detergents to make hollow beads or fine powders from 0.25 up to 5 tons per hour capacity.**

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AMERICAN ASSOCIATES
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SOAP MACHINERY (Contd.)

Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
G. Mazzoni, SPA, Busto Arsizio, Italy
Micro Processing Equipment, Inc., Savage, Minn.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
H. K. Porter Co., 49th and Harrison Sts., Pittsburgh
Sharp Bros., 201 Orient St., Bayonne, N. J. (Cutters)

SOAP, MARINE (see Hardwater Soaps)

SOAP, MEDICINAL, CAKE (see Medicinal Soaps)

SOAP MILLS

Buhler Bros., 2121 State Highway No. 4, Fort Lee, N. J.
J. H. Day Co., Inc., 4932 Beech St., Norwood, Cincinnati
Houchin Machy. Co., Hawthorne, N. J.
Kent Mach. Wks., 37 Gold St., Bklyn. 1
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)
Meccaniche Moderne, Busto Arsizio, Italy
Franklin P. Miller & Son, 36 Meadow St., East Orange, N. J.
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago (Used)
Chas. Ross & Son Co., 150 Classon Ave., Bklyn. 5
Troy Engine & Mach. Co., Troy, Pa.

SOAP, MOTTLED (see Mottled Soaps)

SOAP PAPER (Soap Sheets, Soap Pads, Soap Books—also Soap Cloth)

Burlington Soap Co., 111 Washington St., Chicago 2
Charles F. Hubbs & Co., 383 Lafayette St., N. Y.
Moore Bros. Co., 101 Warren St., N. Y.

SOAP PERFUMES (see also Aromatic Chemicals, Essential Oils, Perfuming Compounds)

Alfa Essential Oil Co., 6 Varick St., N. Y.
American Aromatics, Inc., 24 E. 21st St., N. Y. 10
Aromatic Products, Inc., 235 4th Ave., N. Y. 3
W. J. Bush & Co., 137 Boston Post Rd., Cos Cob, Conn.
Ph. Chaleyer, Inc., 160 E. 56th St., N. Y.
Charabot & Co., 114 E. 25th St., N. Y.
Antoine Chiris Co., 212 E. 23rd St., N. Y.
Delaire, Inc., 114 E. 32nd St., N. Y.
Descollonges, Inc., 160 5th Ave., N. Y. 10
Dodge & Olcott, Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
Drageco, Inc., 432 4th Ave., N. Y. 16
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastman Chem. Prods., Kingsport, Tenn.
Felton Chemical Co., 603 Johnston Ave., Brooklyn
Fine Chems. Div., Shulton, Inc., 630 5th Ave., N. Y.
Firmenich, Inc., 250 W. 18th St., N. Y.
Fleuroma, Inc., 38 W. 21st St., N. Y. 10
Florasynth Labs., 900 Van Nest Ave., N. Y.
Fries & Fries, Inc., 110 E. 70th St., Cincinnati
Fritzsche Bros., Inc., 76 Ninth Ave., N. Y.
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Gunning & Gunning, 305 E. 46th St., N. Y.
Heine & Co., 601 W. 26th St., N. Y. 1
D. W. Hutchinson & Co., 700 S. Columbus Ave., Mt. Vernon, N. Y.
Lautier Fils, 321 Fifth Ave., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y.
Magnus, Mabee & Reynard, 16 Desbrosses St., N. Y.
Neumann Buslee Wolfe, 5800 Northwest Highway, Chicago
N. Y. Aromatics Corp., High Bridge, N. J.
Norda Essential Oil & Chem. Co., 601 W. 16th St., N. Y.
Noville Essential Oil Co., 1312 5th St., N. Bergen, N. J.
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
Perry Bros., Inc., 61-12 32nd Ave., Woodside 77, N. Y.
Polak & Schwarz, Inc., 667 Washington St., N. Y.
Polak's Frutal Works, 33 Sprague St., Middletown, N. Y.
Polarome Co., 73 Sullivan St., N. Y. C.
Reynaud, Ltd., 355 W. 52nd St., N. Y. 19
Rhodia, Inc., 60 E. 56th St., N. Y.
P. Robertet, Inc., 125 E. 23rd St., N. Y. 10
Roubechez, Inc., 8 E. 12th St., New York
Roure-Dupont, Inc., 366 Madison Ave., N. Y.
Edwin Seebach Co., 912 Broadway, N. Y.

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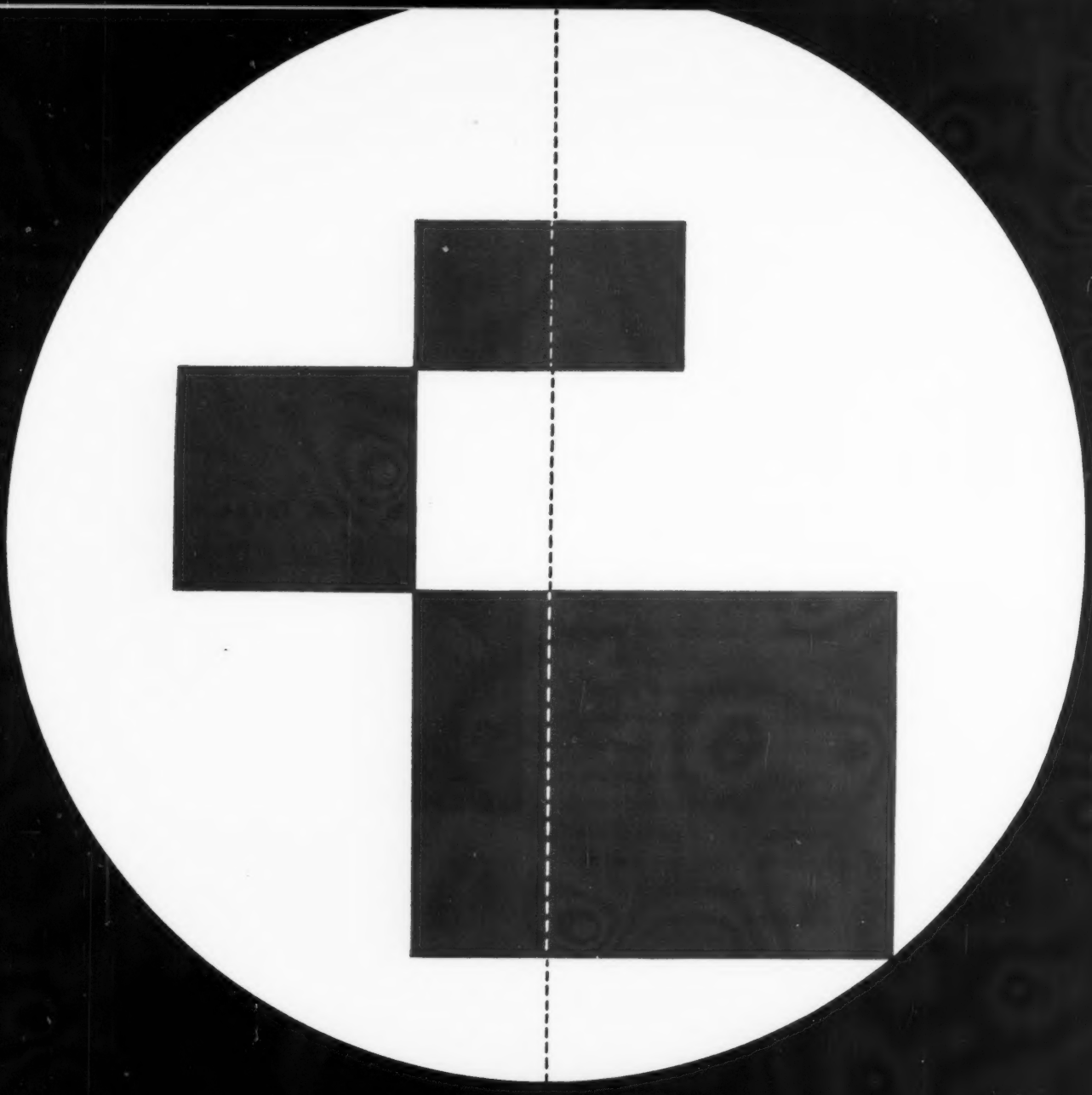

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Schimmel & Co., 601 W. 26th St., N. Y.
Seeley & Co., Nyack, N. Y.
Synfleur Scientific Labs., Monticello, N. Y.
Syntomatic Corp., 114 E. 32nd St., N. Y.
Tombarel Prods. Corp., 725 Broadway, N. Y. 3
Ungerer & Co., 161 Avenue of Americas, N. Y.
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y. 19
Van Dyk & Co., Belleville 9, N. J.
Albert Verley & Co., 1375 E. Linden Ave., Linden, N. J.
Verona Chem. Corp., 26 Verona Ave., Newark, N. J.

SOAP PLANTS (Continuous Process) (see Continuous Process Soap Plants)

SOAP, POWDERED (White neutral powdered soap, powdered castile soap, etc., 95-99 per cent anhydrous soap. Do not confuse with Soap Powders.)

Armour & Co., 1355 W. 31st St., Chicago 9
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago 8
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Davies-Young Soap Co., Dayton, O.
General Biochemicals, Inc., Chagrin Falls, O.
Kranich Soap Co., 60 Richards St., Brooklyn, N. Y.
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
Mione Mfg. Co., Collingdale, Pa.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Distributing Co., Cincinnati
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago 9
U. S. Borax & Chem. Corp., 100 Park Ave., N. Y.
Warren Soap Mfg Co., Brighton, Mass.
Roy Wilson Mfg. Co., 2541 Archer Ave., Chicago 8
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.

SOAP POWDERS (Do not confuse with pure powdered soaps)

Aid Soap Mfg. Co., Rochester, Pa.
American Soap & Washoline Co., Cohoes, N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Baums Castorine Co., 200 Mathew St., Rome, N. Y.
Beach Soap Co., Lawrence, Mass.
Chicago Sanitary Prods. Co., 3100 S. Throop Ave., Chicago 8
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Du Bois Soap Co., Cincinnati
East Coast Soap Corp., 89 Coffey St., Bklyn. 31
Essential Chems. Co., 5906 N. Port Washington Ave., Milwaukee
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Help, Inc., 122 W. Kinzie St., Chicago
R. M. Hollingshead Corp., Camden, N. J.
Hunnewell Soap Co., 114 W. 2nd St., Cincinnati
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
J. Chemical Works, 437 11th Ave., N. Y. 18
Klix Chem. Co., 551 Railroad, S. San Francisco
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Lever Bros. Co., 390 Park Ave., N. Y.
Los Angeles Soap Co., 617 E. First St., Los Angeles
Midland Laboratories, Dubuque, Iowa
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Murro Chemical Co., Portsmouth, Va.
National Southern Products, Tuscaloosa, Ala.
National Milling & Chem. Co., 4601 Flat Rock Rd., Phila. 27
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
North Coast Soap & Chem. Wks., Seattle, Wash.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis 10
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Distributing Co., Cincinnati
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Science Industries, 1509 N. Broadway, St. Louis
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Stevens Soap Corp., 287 Conover St., Bklyn.
John T. Stanley Co., 642 W. 30th St., N. Y.
Sugar Beet Prods. Co., Saginaw, Mich.
Swift & Co., Union Stock Yards, Chicago
Tesco Chemicals, Inc., Atlanta 5, Ga.

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Vliet Soap Co., 638 Monroe St., Brooklyn
Warren Soap Mfg. Co., Brighton, Mass.
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

SOAP PRESSES (see Presses)

SOAP SHEETS (see Soap Paper)

SOAP SOLUTIONIZING DEVICES (Solutionizing and dispensing devices for soaps and detergents)

Davies-Young Soap Co., Dayton, O.
Dema Engineering Co., 8333 Gravois Ave., St. Louis
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Independent Specialties, 152 W. 75th St., Chicago
J. Chemical Corp., 437 11th Ave., N. Y. 18
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Piatt & Smillie Chemicals, 2322 Olive St., St. Louis
Theobald Industries, P. O. Box 72, Harrison, N. J.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12

SOAP SLABBERS (see Soap Machinery)

SOAP SPRAY TOWER (see Spray Towers)

SOAP STOCK (Boiled down cotton oil soap stock, etc.) (see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Falk & Co., Pittsburgh 30
Wm. H. Floyd & Co., Los Angeles
Hewitt Soap Co., Dayton, O.
Portsmouth Cotton Oil Refining Co., Portsmouth, Va.
Procter & Gamble Dist. Co., Cincinnati, O.
Southern Cotton Oil Co., 25 Broad St., N. Y.
A. E. Staley Mfg. Co., Decatur, Ill.
Swift & Co., Chicago 9
Welch, Holme & Clark Co., 439 West St., N. Y.

SOAP TISSUES, (see Soap Paper)

SOAP VALVES (see Soap Dispensers, Multi-unit)

SOAP, WHALE OIL (see Whale Oil Soap)

SOAP WRAPPING MACHY. (see Wrapping Mach.)

SOAPLESS DETERGENTS (see Detergents, Synthetic)

SOAPLESS SHAMPOO (see Shampoos, Soapless)

SOAPS, ANTISEPTIC AND DEODORANT (Cake and liquid)

Aid Soap Mfg. Co., Rochester, Pa.
Ampion Corp., 4-88 47th Ave., L. I. City, N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Banner Chemical Prods. Co., 9 Calumet St., Newark 5, N. J.
Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Capitol Soap Corp., 310 Colfax Ave., Clifton, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Crystal Soap & Chem. Co., 6300 State Rd., Phila.
Davies-Young Soap Co., Dayton, O.
Eagle Soap Co., Huntington, Ind.
Essential Chemicals Co., 5906 N. Port Washington Rd., Milwaukee
Franklin Research, 5134 Lancaster Ave., Phila.
Frontier Chem. Prods., 119 E. Soper St., St. Louis 11
Fuld Bros., 702 S. Wolfe St., Baltimore
Haag Labs., Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pearce & Orthodox Sts., Phila. 37
Hewitt Soap Co., 333 Linden Ave., Dayton, O.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Klix Chem. Co., 551 Railroad Ave., S. San Francisco
Original Bradford Soap Wks., West Warwick, R. I.
Ottawa Chem. Co., 823 Hamilton St., Toledo 7, O.

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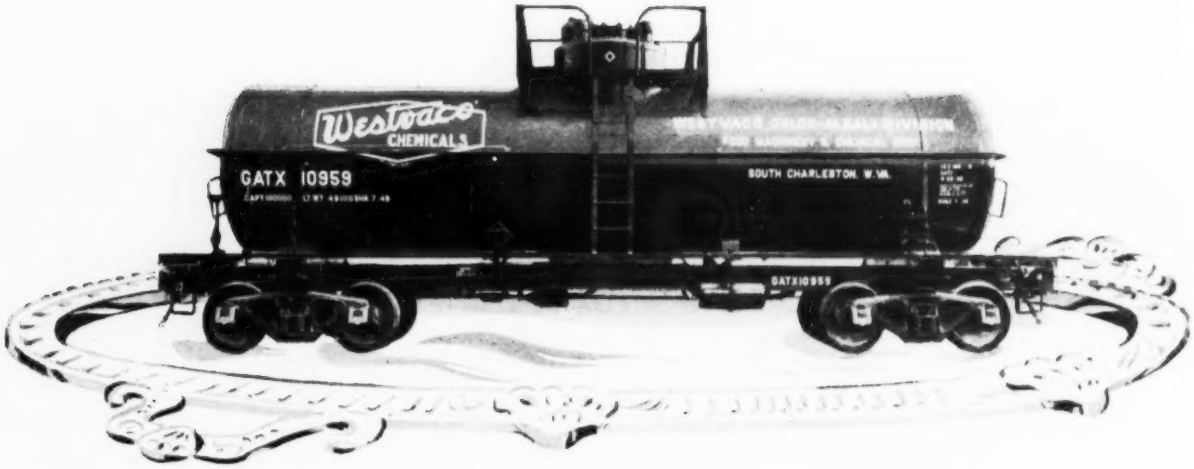

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Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Piatt & Smillie Chemicals, 2322 Olive St., St. Louis 3
Reily Chem. Corp., Ind. Prods. Div., P. O. Box 98, New Orleans, La.
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Skotch Prods. Corp., 2710 Detroit Ave., Cleveland
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Allen B. Wrisley Co., 6801 W. 56th St., Chicago, Ill.

SOAPS, AUTO (see Potash Soaps)

SOAPS, FLOATING (see Floating Soaps)

SOAPS, GRANULATED (see Laundry Soaps, Granulated)

SOAPS, SCOURING (see Scouring Soaps)

SOAPS, SCRUBBING (see Floor Scrub Soaps)

SOAP, SURGICAL (see Potash Soaps)

SOAPS, TEXTILE (see Textile Soaps)

SODA ASH (see also Dealers)

Amer. Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
Columbia-Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Penn Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
West End Chem. Co., 1956 Webster St., Oakland, Calif.
Westvaco Chlor-Alkali Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

SODA (Modified) (see also Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Columbia-Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.

SODIUM ACID SULFATE (see Nitre Cake)

SODIUM ARSENITE

California Spray-Chemical Corp., Richmond, Va.
Chipman Chem. Co., Bound Brooks, N. J.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Merck & Co., Rahway, N. J.
Penn Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Shepherd Chem. Co., Cincinnati 12, O.
Stauffer Chem. Co., 380 Madison Ave., N. Y.

SODIUM BENZOATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
Dow Chemical Co., Midland, Mich.
Heyden Newport Chem. Corp., 342 Madison Ave., N. Y.
Hooker Electrochem. Co., Union St., Niagara Falls, N. Y.
Merck & Co., Rahway, N. J.
Monsanto Chem. Co., St. Louis 4
Robeco Chems., Inc., 23 E. 26th St., N. Y. C.
Seydel Chem. Co., 225 Mercer St., Jersey City, N. J.
Tenn. Prod. & Chem. Corp., Nashville 3, Tenn.

SODIUM BICARBONATE (see also Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Church & Dwight Co., 70 Pine St., N. Y.
Columbia-Southern Chem. Corp., Pittsburgh
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Olin Mathieson Chem. Corp., Baltimore 3
Penn Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Robeco Chems., Inc., 23 E. 26th St., N. Y. C.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

SODIUM BICHROMATE (see also Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Co., 2nd & Mallinckrodt Sts., St. Louis 7
Merck & Co., Rahway, N. J.
Mutual Chemical Div., 99 Park Ave., N. Y.
Natural Products Refining Co., 900 Garfield Ave., Jersey City, N. J.
Jos. Turner & Co., Ridgefield, N. J.

SODIUM BISULFATE (see Nitre Cake)

SODIUM CARBONATE (see Soda Ash)

SODIUM CHLORATE

Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
J. T. Baker Chem. Co., Phillipsburg, N. J.
Chipman Chem. Co., Bound Brook, N. J.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Mallinckrodt Chem. Co., 2nd & Mallinckrodt Sts., St. Louis 7
Merck & Co., Rahway, N. J.
Penn Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Jos. Turner & Co., Ridgefield, N. J.
Western Electrochem. Co., Los Angeles 23, Calif.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

SODIUM CHLORIDE (see Salt, Common Salt)

SODIUM CHLORITE

Olin Mathieson Chem. Corp., Baltimore 3
Berkshire Chemicals, Inc., 420 Lexington Ave., N. Y. 17

SODIUM CYANIDE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
E. I. du Pont de Nemours & Co., Wilmington
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Mallinckrodt Chemical Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Robeco Chems. Inc., 23 E. 26th St., N. Y. C.
Jos. Turner & Co., Ridgefield, N. J.

SODIUM FLUORIDE (see Fluorides)

SODIUM FLUOSILICATE (see Sodium Silicofluoride)

SODIUM GLUCONATE

Dawe's Laboratories, 4800 S. Richmond St., Chicago 32
Chas. Pfizer & Co., 630 Flushing Ave., Bklyn. 6

SODIUM HYDROSULFITE

Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6

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SODIUM HYDROSULFITE (Contd.)

Mallinckrodt Chemical Wks., St. Louis 7
Merck & Co., Rahway, N. J.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Royce Chemical Co., Carlton Hill, N. J.
Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
Jos. Turner & Co., Ridgefield, N. J.
Virginia Smelting Co., W. Norfolk, Va.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

SODIUM HYPOCHLORITE (see Laundry Bleach)

SODIUM HYPOPHOSPHITE

J. T. Baker Chem. Co., Phillipsburg, N. J.
Hooker Electrochem. Co., Niagara Falls, N. Y.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 9

SODIUM HYPOSULFITE (Thiosulfate)

E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
A. R. Maas Chem. Co., Div. of Victor Chem. Wks., 4570 Ardine St., South Gate, Calif.
Mallinckrodt Chem. Wks., St. Louis
Merck & Co., Rahway, N. J.
Rohm & Haas, 222 W. Washington Sq., Phila.
Royce Chem. Co., Carlton Hill, N. J.
Jos. Turner & Co., Ridgefield, N. J.
Virginia Smelting Co., W. Norfolk, Va.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

SODIUM LAURYL SULFATE

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Archer-Daniels-Midland Co., Minneapolis 2
E. I. du Pont de Nemours & Co., Wilmington
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chems., Ardsley, N. Y.
M. Michel & Co., 90 Broad St., N. Y.
Monsanto Chem. Co., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City, N. J.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Stepan Chemical Co., 20 N. Wacker Dr., Chicago
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

SODIUM METABORATE

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
U. S. Borax & Chem. Corp., 100 Park, N. Y.

SODIUM METAPHOSPHATE

Blockson Chem. Co., Joliet, Ill.
Monsanto Chem. Co., St. Louis 4
Rumford Chemical Wks., Rumford, R. I.
Shea Chem. Corp., Jeffersonville, Ind.
Victor Chem. Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chemical Corp., Richmond, Va.
Westvaco Mineral Prods. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y. 17

SODIUM METASILICATE (Anhydrous and Hydrated)

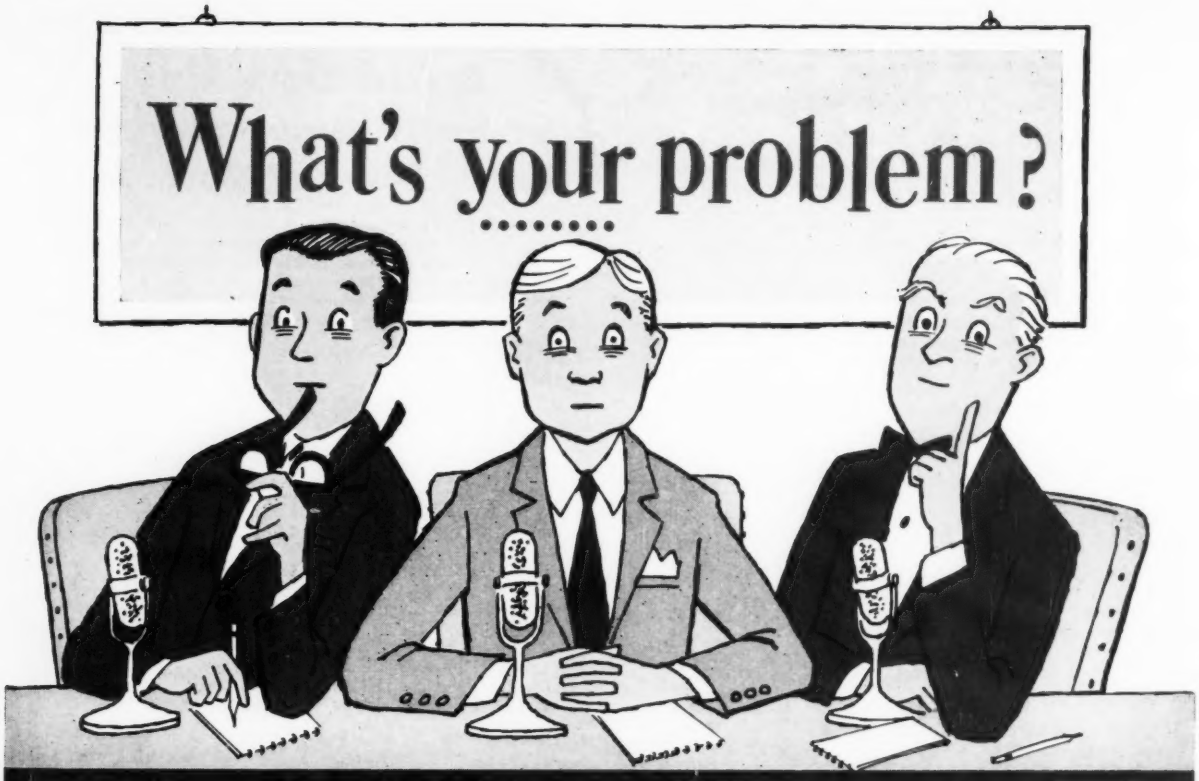
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Union Commerce Bldg., Cleveland
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Virginia-Carolina Chem. Corp., Richmond 5, Va.

SODIUM METHYLATE

R. W. Greeff & Co., 10 Rockefeller Plaza, N. Y.
Olin Mathieson Chem. Co., Baltimore 3

SODIUM ORTHOSILICATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland



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Diamond Alkali Co., Union Commerce Bldg., Cleveland
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6

SODIUM PERBORATE (see also Dealers)

Berkshire Chemicals, Inc., 420 Lexington Ave., N. Y. 17
Becco Chemical Div., Food Machy. & Chem. Corp., Buffalo 7, N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chem. Wks., 2nd & Mallinckrodt Sts., St. Louis 7
Merck & Co., Rahway, N. J.
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17

SODIUM PHOSPHATES (see also Sodium Metaphosphate, Sodium Tripolyphosphate, Tetrasodium Pyrophosphate, Trisodium Phosphate, etc.)

Blockson Chemical Co., Joliet, Ill.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Monsanto Chemical Co., St. Louis
Riches-Nelson, Inc., 342 Madison Ave., N. Y. 17
Rumford Chemical Wks., Rumford, R. I.
Shea Chemical Corp., Jeffersonville, Ind.
Victor Chemical Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y. 14
Westvaco Mineral Prods. Div., Food Machinery & Chem. Corp., 161 E. 42nd St., N. Y. 17

SODIUM PYROPHOSPHATE (see Tetrasodium Pyrophosphate)

SODIUM SESQUICARBONATE

Diamond Alkali Co., Union Commerce Bldg., Cleveland
Olin Mathieson Chem. Corp., Baltimore 3
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Virginia-Carolina Chemical Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Mineral Prods. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y. 17

SODIUM SESQUISILICATE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Cowles Chemical Co., 7016 Euclid Ave., Cleveland
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Jos. Turner & Co., Ridgefield, N. J.
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

SODIUM SILICATE (see also Dealers)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Davison Chemical Co., Baltimore
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chem. Co., 1945 E. 97th St., Cleveland 6
Philadelphia Quartz Co., Public Ledger Bldg., Phila. 6
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.

SODIUM SILICOFLUORIDE

American Fluoride Corp., 151 W. 19th St., N. Y.
Armour & Co., Chicago
Blockson Chemical Co., Joliet, Ill.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Merck & Co., Rahway, N. J.
Penn. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Henry Sundheimer, Inc., 103 Park Ave., N. Y.
Tennessee Corp., Atlanta, Ga.

SODIUM SULFATE (Glauber's Salt)

American Cyanamid Co., 30 Rockefeller Center, N. Y.
Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles

SODIUM SULFATE (Contd.)

J. T. Baker Chem. Co., Phillipsburg, N. J.
Blockson Chem. Co., Joliet, Ill.
E. I. du Pont de Nemours & Co., Wilmington
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chem. Co., 1945 E. 97th St., Cleveland
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chem. Co., St. Louis 4
Stauffer Chem. Co., 380 Madison Ave., N. Y.
Jos. Turner & Co., Ridgefield, N. J.
Penn. Salt Mfg., 3 Penn Center Plaza, Phila.
West End Chemical Co., 1946 Webster St., Oakland, Calif.

SODIUM SULFITE

E. I. du Pont de Nemours & Co., Wilmington
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Mallinckrodt Chemical Wks., St. Louis, Mo.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chem. Co., St. Louis
Prior Chemical Corp., 420 Lexington Ave., N. Y.
Stauffer Chemical Co., 380 Madison Ave., N. Y.
Victor Chemical Works, 155 N. Wacker Dr., Chicago
West End Chem. Co., 1956 Webster St., Oakland, Calif.

SODIUM TETRABORATE

American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
U. S. Borax & Chem. Corp., 100 Park Ave., N. Y. 17

SODIUM TRIPOLYPHOSPHATE

Blockson Chemical Co., Joliet, Ill.
E. I. du Pont de Nemours & Co., Wilmington
General Chemical Div., Allied Chemical & Dye Corp., 40 Rector St., N.Y.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
Monsanto Chem. Co., St. Louis 4
Rumford Chem. Wks., Rumford, R. I.
Shea Chemical Corp., Jeffersonville, Ind.
Victor Chemical Wks., 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond 8, Va.
Welch, Holme & Clark Co., 439 West St., N. Y. 19
Westvaco Mineral Prods. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y. 17

SOFT SOAPS (see Potash Soaps)

SOFTENERS (Textile)

Antara Chems., Div. GAF, 435 Hudson St., N. Y.
Armour & Co., 1355 W. 31st St., Chicago 9
Atlas Powder Co., Wilmington, Del.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
M. Michel & Co., 90 Broad St., N. Y.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City, N. J.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Standard Soap Co., Div. Concord Chemical Co., 205 S. 2nd St., Camden, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

SOIL FUMIGANTS

Amer. Potash & Chem. Corp., 3030 W. 6th St., Los Angeles
California Spray-Chemical Corp., Richmond, Calif.
Dow Chemical Co., Midland, Mich.
General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Heyden Newport Chemical Corp., 342 Madison Ave., N. Y. 17
Jefferson Chemical Co., Box 303, Houston, Tex.
Larvacide Products, Inc., 117 Liberty St., N. Y. 17
Monsanto Chemical Co., St. Louis
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Shell Chemical Corp., 50 W. 50th St., N. Y.

SOLUBLE OILS (see Sulfonated Oils)

SOLVENTS, ETHER (see Ethers)

SOLVENTS, CHLORINATED (see also alcohols, coal tar derivatives, etc.)

Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, Ohio
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12, Ill.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Dover Chemical Co., Dover, O.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eastman Chemical Prods. Co., Kingsport, Tenn.
Fine Organics, Inc., 211 E. 19th St., N. Y.
Hercules Powder Co., 961 Market St., Wilmington (Terpene)
Hooker Electrochemical Co., Union St., Niagara Falls, N. Y.
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22, Ind.
Jefferson Chemical Co., Box 303 Houston, Tex.
Koppers Co., Chamber Commerce Bldg., Pittsburgh
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Monsanto Chemical Co., St. Louis
Neville Chemical Co., Pittsburgh
Newport Industries, Inc., Div. Heyden Newport Chem. Corp., 230 Park Ave., N. Y.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Olin Mathieson Chem. Corp., Baltimore 3
Penna. Salt. Mfg. Co., 3 Penn Center Plaza, Phila.
Shell Chemical Corp., 50 W. 50th St., N. Y. 18
Skelly Oil Co., Kansas City, Mo.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Southern Solvents & Chemicals Corp., 1352 Jefferson Highway, New Orleans 18, La.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
U. S. Industrial Chemicals, Inc., 120 Broadway, N. Y. 5
Velsicol Corp., 330 E. Grand Ave., Chicago
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11, Michigan
Westvaco Chlor-Alkali Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y.
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee 14, Wis.
Wolverine Sols. & Chems. Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

SOLVENTS, NAPHTHA

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, Ohio
Anderson-Prichard Oil Corp., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Phila.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
S. H. Bell Co., 1407 Gulf Bldg., Pittsburgh
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12
Commerce Petroleum Co., 2980 Archer Ave., Chicago
Dixie Solvents & Chems. Co., Dixie Highway & Appleton Lane, Louisville, Ky.
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Gulf Oil Corp., Pittsburgh 30
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22, Ind.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Neville Chemical Co., Pittsburgh
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Pennsylvania Industrial Chem. Corp., Clairton, Pa.
Pennsylvania Refining Co., Butler, Pa.
Reilly Tar & Chemical Corp., Indianapolis
Skelly Oil Co., 605 W. 47th St., Kansas City, Mo.
Sinclair Refining Co., East Chicago, Ind.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans 18, La.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Tar Residuals, Inc., 420 Lexington Ave., N. Y.
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Velsicol Corp., 330 E. Grand Ave., Chicago
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11, Michigan
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee 14, Wis.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.

SOLVENTS, OXYGENATED

Amsco Sols. & Chems. Co., 3470 W. 140th St., Cincinnati
Buffalo Solvents & Chems. Corp., P. O. #73, Sta. B, Buffalo
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Dixie Sols. & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Enjay Co., 15 W. 51st St., N. Y. 19
Hoosier Solvents & Chem. Corp., 1650 Luett St., Indianapolis
Jefferson Chemical Co., Box 303, Houston, Texas
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Texas Solvents & Chems. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Sols. & Chems. Co., 1719 S. 83rd St., Milwaukee
Wolverine Sols. & Chems. Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.

SOLVENTS, PETROLEUM

Amoco Chems. Corp., 910 S. Michigan Ave., Chicago
Amsco Solvents & Chemicals Co., 4619 Reading Road, Cincinnati 29, Ohio
Anderson-Prichard Oil Co., Oklahoma City, Okla.
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Buffalo Solvents & Chemicals Corp., Box 73, Station B, Buffalo 7, N. Y.
Central Solvents & Chemicals Co., 2540 W. Flournoy St., Chicago 12
Chemical Solvents Co., 2500 Summit, Kan. City, Mo.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.
Esso Standard Oil Corp., Pittsburgh 30
Hoosier Solvents & Chemicals Corp., 1650 Luett Ave., Indianapolis 22, Ind.
Missouri Solvents & Chemicals Co., 419 De Soto Ave., St. Louis 7, Mo.
Ohio Solvents & Chemicals Co., 3470 W. 140th St., Cleveland 11, Ohio
Penna. Industrial Chem. Corp., Clairton, Pa.
Pennsylvania Refining Co., Butler, Pa.
Phillips Petroleum Co., Bartlesville, Okla.
Shell Oil Co., 50 W. 50th St., N. Y.
Sinclair Refining Co., 630 5th Ave., N. Y.
Skelly Oil Corp., 605 W. 47th St., Kansas City, Mo.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 10
L. Sonneborn Sons, 300—4th Ave., N. Y. 10
Southern Solvents & Chemicals Corp., 917 Jefferson Highway, New Orleans 18, La.
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
Standard Oil Co. (Ohio), Midland Bldg., Cleveland
Texas Solvents & Chemicals Co., 8501 Market St., Houston 15, Texas
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Velsicol Corp., 330 Grand Ave., Chicago
Western Solvents & Chemicals Co., 6472 Selkirk Ave., Detroit 11, Michigan
Wisconsin Solvents & Chemicals Corp., 1719 S. 83rd St., Milwaukee 14, Wis.
Wolverine Solvents & Chemicals Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.

SOYA BEAN OIL (see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis 2
Balfour, Guthrie Co., 67 Wall St., N. Y.
Irving R. Boody & Co., 130 Wall St., N. Y.
Drackett Co., 5020 Spring Grove, Cincinnati 32
Eastern Industries, Inc., Ridgefield, N. J.
General Mills, Chemical Div., Kankakee, Ill.
Spencer Kellogg & Sons, 98 Delaware Ave., Buffalo, N. Y.
Pacific Vegetable Oil Co., 62 Townsend St., San Francisco
Purina Mills, St. Louis
Robinson Wagner Co., 110 E. 42nd St., N. Y.
A. E. Staley Mfg. Co., Decatur, Ill.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.
G. S. Ziegler & Co., Great Neck, N. Y.

SOYA BEAN FATTY ACIDS

Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago

SOYA BEAN FATTY ACIDS (Contd.)

Capital City Prods. Co., P. O. Box 569, Columbus, O.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Emery Industries, 4300 Carew Tower, Cincinnati 2
General Mills, Chemical Div., Kankakee, Ill.
A. Gross & Co., 295 Madison Ave., N. Y. 17
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville, N. J.
Lever Bros. Co., 390 Park Ave., N. Y.
Procter & Gamble Dist. Co., Cincinnati 1
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 429 W. 29th St., N. Y. 14
Wilson-Martin Div., Wilson & Co., Snyder Ave. & Swanson St., Phila.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

SPERMACETI (see Whale Oil)

SPOTTING FLUIDS (see Cleaning Fluids)

SPOUTS (see Can Spouts, Closures)

SPRAY SYSTEMS, PERMANENT INSTALLATIONS

Gallo Mfg. Co., 1312 Forest St., Racine, Wisc.
H. D. Hudson Mfg. Co., 549 E. Illinois St., Chicago 11
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Virginia Smelting Co., West Norfolk, Va.
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

SPRAY TOWERS (engineering and installation)

Bowen Engineering, Inc., North Branch, N. J.
J. W. McCutcheon, Inc., 475 Fifth Ave., N. Y.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Nichols Eng. & Research Corp., 70 Pine St., N. Y.
Proctor & Schwartz, Inc., 7th St. & Tabor Rd., Phila.
Foster D. Snell, 29 W. 15th St., N. Y. 11
Spraying Systems, Inc., 3266 Randolph St., Bellwood, Ill.
Swenson Evaporator Div., Whiting Corp., Whiting, Ill.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

SPRAYER NOZZLES (see Nozzles)

SPRAYERS (Atomizers)

Arnold-Copeland Co., 22 Elkins St., So. Boston, Mass.
Calmar Co., Distributors, Inc., 5020 Spring Grove, Cincinnati, O.
R. E. Chapin Mfg. Wks., Batavia, N. Y.
Dobbins Div., Chamberlain Corp., Waterloo, Iowa
Evans-Crowder Co., South Lyon, Mich.
Federal Tool Corp., 3600 S. Pratt Blvd., Chicago 45
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago 11
D. B. Smith & Co., 414 Main St., Utica, N. Y.
Spraying Systems, Inc., 3266 Randolph St., Bellwood, Ill.
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

SPRAYERS, ELECTRIC

Acmeline Mfg. Co., Traverse City, Mich.
Binks Mfg. Co., 3114 Carroll Ave., Chicago
Breuer Elect. Mfg. Co., 5100 N. Ravenswood Ave., Chicago 40
DuLa Mfg. Co., 351 Atlantic Ave., Brooklyn, N. Y.
Fumeral Co., Racine, Wis.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Lowell Mfg. Co., 589 E. Illinois St., Chicago
Root-Lowell Corp., 445 N. Lake Shore Dr., Chicago
Silver Creek Precision Corp., Silver Creek, N. Y.
Z & W Mfg. Corp., 30240 Lakeland Blvd., Wickliffe, O.

SPRAYERS, HAND

Acmeline Mfg. Co., Traverse City, Mich.
R. E. Chapin Mfg. Co., Batavia, N. Y.
Dobbins Div.—Chamberlain Corp., Waterloo, Iowa
Evans-Crowder Co., South Lyon, Mich.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Jaeckh Mfg. Co., Cincinnati
Lowell Mfg. Co., 589 E. Illinois St., Chicago
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Root-Lowell Corp., 445 N. Lake Shore Dr., Chicago

SPRAYERS, HAND (Contd.)

D. B. Smith & Co., 414 Main St., Utica, N. Y.
Standard Container, Inc., Rockaway, N. J.
Universal Metal Prods. Co., Lowell, Mich.
Volume Sprayer Mfg. Co., Tulsa, Okla.
Z & W Mfg. Corp., 30240 Blvd., Wickliffe, O.

SPRAYERS, COMPRESSED AIR

Acmeline Mfg. Co., Traverse City, Mich.
Champion Sprayer Co., 6523 Heintz Ave., Detroit 11
R. E. Chapin Mfg. Co., Batavia, N. Y.
DeVilbiss Co., Toledo, O.
Dobbins Div.—Chamberlain Corp., Waterloo, Iowa
Gallo Mfg. Co., 1312 Forest St., Racine, Wis. (built in systems)
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Imperial Brass Co., 1237 W. Harrison St., Chicago
Lowell Mfg. Co., 589 E. Illinois St., Chicago
Root-Lowell Corp., 445 N. Lake Shore Dr., Chicago
D. B. Smith & Co., 414 Main St., Utica, N. Y.
Spraying Systems Co., 3266 Randolph St., Bellwood, Ill.
Universal Metal Prods. Co., Lowell, Mich.

SPRAYERS (for Fogging)

Buffalo Turbine Agr. Equip. Co., Gowanda, N. Y.
Curtis Automotive Devices, Bedford, Ind.
Todd Shipyards Corp., 81-16 45th Ave., Elmhurst, N. Y.
Silver Creek Precision Corp., Silver Creek, N. Y.

SPRAYERS, POWER (Heavy Duty)

John Bean Mfg. Co., Div. Food Mach. Co., Lansing, Mich.
Buffalo Turbine Agr. Equip. Co., Gowanda, N. Y.
Dobbins Div.—Chamberlain Corp., Waterloo, Iowa
A. B. Farquhar Co., 142 N. Duke St., York, Pa.
H. D. Hudson Mfg. Co., 589 E. Illinois St., Chicago
Hardie Mfg. Co., Hudson, Mich.
Hurst Industries, Inc., 1849 S. 1st St., San Jose, Calif.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
F. E. Myers & Brothers Co., Ashland, O.
Silver Creek Precision Co., Silver Creek, N. Y.
Victor Products Corp., Ranson, W. Va.

SPRAYERS, STEAM

DuLa Mfg. Co., 351 Atlantic Ave., Brooklyn
Fumeral Co., Racine, Wis.
Hydro-Mist. Div., Arnold Laboratories, 1515 W. Glenoaks Blvd., Glendale, Calif.
Lowell Mfg. Co., North Pier Terminal, Chicago
Madewell Products, Inc., 3125 E. 7th St., Oakland, Calif.
Root-Lowell Corp., 445 N. Lake Shore Dr., Chicago
Spray, Inc., 218 N. 15th St., East Orange, N. J.

SQUILLS (Rodent Poison)

A-M-R Chemical Co., 985 E. 35th St., Bklyn. 10
Chem. Insecticide Corp., 129 Montague St., Bklyn.
McLaughlin, Gormley, King Co., 1715 5th St., S.E. Minneapolis, Minn.
S. B. Penick & Co., 50 Church St., N. Y.
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.
Uncle Sam Chem. Co., 575 W. 131st St., N. Y. 27
York Chem. Co., 23 Dean St., Bklyn.

STABILIZERS (Emulsion Stabilizers)

Atlas Powder Co., Wilmington, Dela.
Borden Co., 350 Madison Ave., N. Y.
Carbide & Carbon Chem. Co., 30 E. 42nd St., N. Y.
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Geigy Industrial Chemicals, Ardsley, N. Y.
Glyco Products, 350 5th Ave., N. Y.
Hercules Powder Co., Wilmington, Del.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Refined Prods. Corp., 624 Schuyler Ave., Lyndhurst, N. J.

STAINLESS STEEL CLAD EQUIPMENT (see Clad Equipment)

STAINLESS STEEL TANKS (see Tanks)

STAIN REMOVERS

Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Clarkson Laboratories, 920 N. Darien St., Phila. 23
Davies-Young Soap Co., Dayton, O.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Fuld Bros., 702 S. Wolfe St., Baltimore
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Penna. Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Trio Chem. Wks., 341 Scholes St., Brooklyn
Wilco Co., 4425 Bandini Blvd., Los Angeles 23
Zeen Chem. Co., 2000 Elm St., NW, Cleveland

STANNOUS CHLORIDE (see Tin Crystals)

STARCH (see also Dealers)

American Maize Products Co., 250 Park Ave., N. Y.
Archer-Daniels-Midland Co., Minneapolis
Clinton Foods, Corn Processing Division, Clinton, Iowa
Corn Products Sales Co., 17 Battery Pl., N. Y.
National Starch Products Co., 270 Madison Ave., N. Y.
A. E. Staley Mfg. Co., Decatur, Ill.
Welch, Holme & Clark Co., 439 West St., N. Y.

STEARATES (Zinc, Calcium, Magnesium, etc.)

Amsco Sols. & Chems. Co., 4619 Reading Rd., Cincinnati
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, Div. General Aniline & Film Corp., 435 Hudson St., N. Y.
Archer-Daniels-Midland Co., Minneapolis 2
Arnold, Hoffman & Co., 55 Canal St., Providence, R. I.
Atlas Powder Co., Wilmington, Del.
Buffalo Sols. & Chems. Co., Box 73, Sta. B, Buffalo
Capital City Prods. Co., P. O. Box 569, Columbus, O.
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dixie Sols. & Chems. Co., Dixie Highway, Louisville, Ky.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Glyco Prods. Co., 350 5th Ave., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Hoosier Sols. & Chems. Co., 1650 Luett Ave., Indianapolis
Mallinckrodt Chem. Wks., St. Louis
Merck & Co., Rahway, N. J.
Metasap Chem. Co., First & Essex Sts., Harrison, N. J.
Missouri Sols. & Chems. Co., 419 De Soto Ave., St. Louis
Ohio Sols. & Chems. Co., 3470 W. 140th St., Cleveland
M. W. Parsons, Inc., 59 Beekman St., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
Southern Sols. & Chems. Corp., 917 Jefferson Highway, New Orleans
Texas Solvents & Chem. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo
Jos. Turner & Co., Ridgefield, N. J.
Van Dyk & Co., Belleville 9, N. J.
Warwick Chemical Co., Div. of Sun Chem. Corp., 10-10 44th Ave., L. I. C., N. Y.
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Whitttaker, Clark & Daniels, 260 W. Bway., N. Y.
Wisconsin Solvents & Chems. Corp., 1719 S. 83rd St., Milwaukee
Witco Chemical Co., 122 E. 42nd St., N. Y.

STEARIC ACID

Acme-Hardesty Co., 60 E. 42nd St., N. Y. C.
Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
Capitol City Prods. Co., 525 W. 1st St., Columbus, O.
Celina Stearic Acid Co., Celina, Ohio
Concord Chem. Co., 205 S. 2nd Sts., Camden, N. J.
Darling & Co., 4201 S. Ashland Ave., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
Fine Organics, Inc., 211 E. 19th St., N. Y.
General Mills, Chemical Div., Kankakee, Ill.
A. Gross & Co., 295 Madison Ave., N. Y.
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville 9, N. J.
Orbis Products Corp., 601 W. 26th St., N. Y.
Procter & Gamble Dist. Co., Cincinnati
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
F. W. Steadman Co., 59 Pearl St., N. Y. 4

Swift & Co., Industrial Oil Dept., Hammond, Ind.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Trendex Div., The Humko Co., P. O. Box 4607, Memphis, Tenn.
Charles A. Wagner Co., 4455 N. 6th St., Phila.
Welch, Holme & Clark Co., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Will & Baumer Candle Co., Syracuse, N. Y.
Wilson-Martin Div., Snyder Ave. & Swanson St., Phila.
Witco Chemical Co., 122 E. 42nd St., N. Y.
Woburn Chemical Corp., 1200 Harrison Ave., Kearny, N. J.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

STEARINE

Acme Hardesty Co., 60 E. 42nd St., N. Y.
Allied Asphalt & Mineral Corp., 217 Broadway, N. Y.
American Gilsonite Co., 134 W. Broadway, Salt Lake City, Utah
Archer-Daniels-Midland Co., Minneapolis 2
Armour & Co., 1355 W. 31st St., Chicago
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, Inc., 4300 Carew Tower, Cincinnati
A. Gross & Co., 295 Madison Ave., N. Y. 17
Independent Mfg. Co., Bridesburg, P. O., Phila.
Neatsfoot Oil Refineries Corp., E. Ontario & Bath Sts., Phila.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wilson-Martin Div., Wilson & Co., Snyder Ave. & Swanson St., Phila.
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.
Zophar Mills, Inc., 112 26th St., Brooklyn, N. Y.

STEARINE PITCH

Allied Asphalt & Mineral Corp., 217 Broadway, N. Y.
American Gilsonite Co., 134 W. Broadway, Salt Lake City, Utah
E. F. Drew & Co., 15 E. 26th St., N. Y.
Neatsfoot Oil Refineries Corp., Ontario & Bath Sts., Phila.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.
G. S. Ziegler Co., Box 348, Great Neck, N. Y.
Zophar Mills, 112 26th St., Bklyn.

STEARYL ALCOHOL (see Fatty Alcohols)

STEEL DRUMS (see Drums, Steel)

STEEL DRYING ROLLS (see Chilling Rolls)

STEEL PAILS (see Pails)

STEEL, WOOL

American Steel Wool Mfg. Co., 41-24 Orchard St., L. I. City, N. Y.
Brillo Co., 60 John St., Bklyn. 1
Durawool, Inc., 95-59 222nd St., Queens Village, N. Y.
International Steel Wool Co., Springfield, Ohio
James H. Rhodes & Co., 157 W. Hubbard St., Chicago
S.O.S. Co., 7123 W. 65th St., Chicago 38
Williams Co., London, Ohio

STOCK SPRAYS and DIPS (see Cattle Dips and Sprays)

STROBANE

B. F. Goodrich Chem. Co., 3135 Euclid Ave., Cleveland 15

SUDSING EQUIPMENT (see Soap Solutionizing Devices)

SULFAMIC ACID

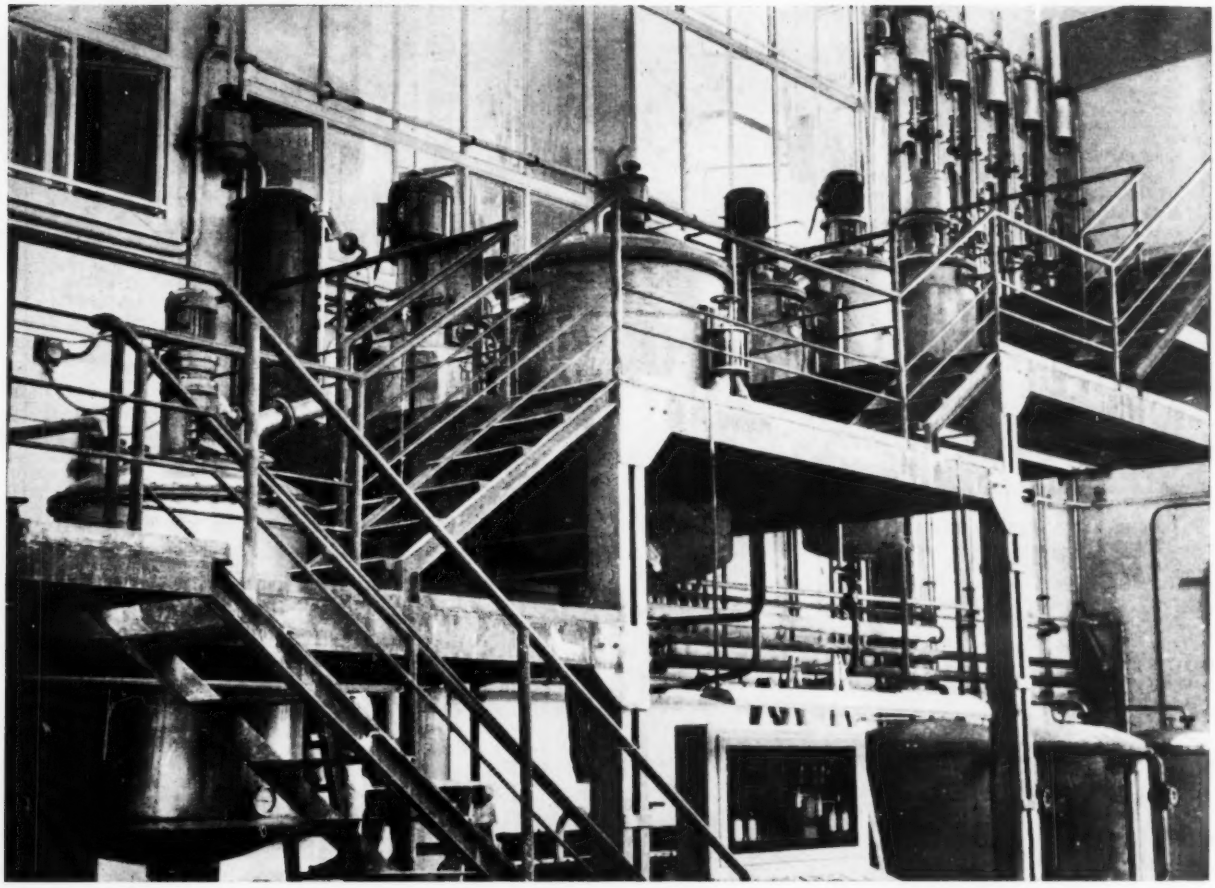
E. I. du Pont de Nemours & Co., Wilmington

SULFATED and SULFONATED FATTY ALCOHOLS (and other Non-Soap Organic Detergent Basic materials. (See also Detergents, Synthetic)

Aceto Chem. Co., 40-40 Lawrence Ave., Flushing, N. Y.
American Alcolac Corp., 3440 Fairfield Rd., Balto.
Archer-Daniels-Midland Co., Minneapolis 2
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Carlstadt Chemical Co., Carlstadt, N. J.
Dehydag Deutsche Hydrierwerke, Henkel Strasse 67, Dusseldorf, Germany
E. I. du Pont de Nemours Co., Wilmington, Del.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.

MECCANICHE MODERNE

Corso Sempione, 51 — BUSTO ARSIZIO (Italy)



500 Kgs. per hour "SULFAN" plant in operation

"SULFAN" CONTINUOUS SULFONATION PLANT — "Ballestra" Patent Basic operating principles

Pre-dilution of reacting matters into the reaction product and consequently:

—No more local overheating !

—No more di-sulfonated matter !

—No more product discoloration !

—No more temperature troubles as with batch plants !

—No more ice dilution of sulfonated matter: water is perfectly O.K. !

—No more expensive refrigerating units !

Manufacturing characteristics

—Cooling by means of tap water (Max. temperature 20° C.)

—Constant pH values in each step: each vessel is manufactured in the more resistant material to suit the pH value and consequently: no more corrosion.

—Perfect and simple proportioning of the reacting matters with no moving parts for doing it.

—Perfectly constant reaction times in each step and consequently perfectly homogeneous products.

—Totally automatic operation, controlled from one main board.

—Possibility of getting slurries with high active matter, very low mineral salts content and practically no unsulfonated matter.

—A very wide range of sulfonable matters can be employed as raw material.

Economic advantages

Longer lasting plant: lower mortgage percentages.

—A sulfan plant requires about 1/5 of the space required by a batch plant of the same capacity: substantial money savings on space and building costs.

—Very low operating costs: one man is sufficient to inspect the running plant at regular intervals.

—Lower current consumption because no refrigerating unit is needed and less power is required due to the smaller dimensions of the vessels.

—A high degree of sulfonation prevents alkane waste in drying the slurry.

U. S. Sales Representatives:
American Associates, 507 Fifth Ave., N. Y. 17, N. Y.

SULFATED and SULFONATED FATTY ALCOHOLS (Contd.)

Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Fibor Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chems., Ardsley, N. Y.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
Maywood Chemical Works, Maywood, N. J.
M. Michel & Co., 90 Broad St., N. Y.
Monsanto Chem. Co., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City, N. J.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Proctor & Gamble Co., Cincinnati
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Sandoz Chemical Works, 61 Van Dam St., N. Y.
Stepan Chem. Co., 20 N. Wacker Drive, Chicago
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Welch, Holme & Clark Co., 439 West St., N. Y. 19

SULFATED HIGHER ALCOHOLS

Archer-Daniels-Midland Co., Minneapolis 2
American Alcolac Corp., 3440 Fairfield Rd., Baltimore
Armour & Co., 1355 W. 31st St., Chicago
Antara Chem. Div., General Aniline & Film Corp., 435 Hudson St., N. Y.
Finetex, Inc., East Paterson, N. J.
M. Michel & Co., 90 Broad St., N. Y. 4
Nopco Chemical Co., Harrison, N. J.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Stepan Chemical Co., 20 N. Wacker Drive, Chicago 6
Jacques Wolf & Co., Passaic, N. J.

SULFONATED OILS

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, Div., General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Archer-Daniels-Midland Co., Minneapolis 2
Atlantic Refining Co., 260 S. Broad St., Phila.
Carlstadt Chemical Co., Carlstadt, N. J.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Eastern Industries, Inc., Ridgefield, N. J.
Emery Industries, 4300 Carew Tower, Cincinnati
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
M. Michel & Co., 90 Broad St., N. Y.
Neatsfoot Oil Refineries Corp., E. Ontario & Bath Sts., Phila.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
Sandoz Chemical Works, 61 Van Dam St., N. Y.
Shell Chemical Corp., 50 W. 50th St., N. Y. 20
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 10
L. Sonneborn Sons, 300—4th Ave., N. Y. 10
Stepan Chem. Co., 20 N. Wacker Drive, Chicago
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Warwick Chemical Co., 10th St. & 44th Ave., Long Island City, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

SULFONATING EQUIPMENT

Bowen Engineering, Inc., North Branch, N. J.
J. W. McCutcheon, Inc., 475 5th Ave., N. Y.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Oronite Chem. Co., 200 Bush St., San Francisco
Proctor & Schwartz, Inc., 7th St. & Tabor Rd., Phila.
Wurster & Sanger, 5201 S. Kenwood Ave., Chicago

SULFONIC ACID

Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Ninol Laboratories, Prudential Plaza, Chicago
Oronite Chem. Co., 200 Bush St., San Francisco
Pilot California Co., 215 W. 7th St., Los Angeles
Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
Treplow Products, 59 Camden St., Paterson, N. J.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.

SULFOXYLATES (Soap Bleaches)

Antara Chemicals, Div., General Aniline & Film Corp., 435 Hudson St., N. Y.
Rohm & Haas Co., Inc., 222 W. Washington Sq., Phila.
Royce Chem. Co., Carlton Hill, N. J.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

SULFUR

Freeport Sulphur Co., 161 E. 42nd St., N. Y. 17
Jefferson Lake Sulphur Co., Whitney Bldg., New Orleans, La.
Niagara Chem. Div., Food Machy. & Chem. Corp., Middleport, N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Stauffer Chem. Co., 380 Madison Ave., N. Y. 17
Texas Gulf Sulphur Co., 75 E. 45th St., N. Y.

SULFURIC ACID

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Blockson Chem. Co., Joliet, Ill.
E. I. du Pont de Nemours & Co., Wilmington
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Olin Mathieson Chem. Corp., Baltimore 3
Monsanto Chemical Co., St. Louis
Mallinckrodt Chem. Wks., St. Louis
Merck & Co., Rahway, N. J.
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, N. Y.
Rumford Chem. Wks., Rumford, R. I.
Stauffer Chem. Co., 380 Madison Ave., N. Y.

SUPERFATTING AGENTS

E. F. Drew & Co., 15 E. 26th St., N. Y.
Emery Industries, 4200 Carew Tower, Cincinnati
Kessler Chem. Co., State Rd. & Cottman Ave., Phila.
N. I. Malstrom & Co., 147 Lombardy St., Bklyn., N. Y.
M. Michel & Co., 90 Broad St., N. Y. 4
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Dr., Chicago
Robinson Wagner Co., 110 E. 42nd St., N. Y. 17

SURFACE ACTIVE AGENTS (see also Detergents, Synthetic, and Sulfonated Oils)

American Alcolac Corp., 3440 Fairfield Rd., Balto.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals, Div., General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Atlas Powder Co., Wilmington, Del.
Blockson Chemical Co., Joliet, Ill.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Continental Oil Co., 630 5th Ave., N. Y. 20
Commercial Solvents Corp., 260 Madison Ave., N. Y.
Dehydag Deutsche Hydrierwerke, Henkel Strasse 67, Dusseldorf, Germany
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington, Del.
Emery Industries, 4300 Carew Tower, Cincinnati
Emulsol Chemical Corp., 75 E. Wacker Dr., Chicago
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Geigy Industrial Chemicals, Ardsley, N. Y.
Glyco Prods. Co., 350 5th Ave., N. Y.
Harchem Div., Wallace & Tiernan, Inc., Box 178, Newark, N. J.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Intex Chem. Corp., 167 Main St., Lodi, N. J.
Jefferson Chem. Co., Box 303, Houston, Tex.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
Maywood Chem. Wks., Maywood, N. J.
M. Michel & Co., 90 Broad St., N. Y.
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
Monsanto Chemical Co., St. Louis
National Aniline Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Ninol Laboratories, Prudential Plaza, Chicago
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Olin Mathieson Chem. Corp., Baltimore 3, Md.
Onyx Oil & Chem. Co., Warren & Morris Sts., Jersey City 2
Oronite Chem. Co., 200 Bush St., San Francisco
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Pilot California Co., 215 W. 7th St., Los Angeles 14
Quaker Chem. Prods., Conshohocken, Pa.

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Controlled superiority is characteristic of acid refined tali oils produced by National Southern Products Corporation. Facoil CS, especially developed for the manufacturers of soaps and detergents, is well known for its pale color and superior color retention. If you are looking for a continuous supply of pale fatty and rosin acids, Facoil CS is your best buy.

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N. S. P. TOPS IN TALL OIL

NATIONAL SOUTHERN PRODUCTS CORPORATION

TUSCALOOSA, ALABAMA

SURFACE ACTIVE AGENTS (Contd.)

Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Refined Prods. Corp., Lyndhurst, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Royce Chem. Co., Carlton Hill, N. J.
Sandoz Chem. Wks., 61 Van Dam St., N. Y. 13
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
Stepan Chem. Co., 20 N. Wacker Drive, Chicago
Synthetic Chemicals, Inc., 335 Boulevard, Paterson 4, N. J.
Tennessee Corp., 619 Grant Blvd., Atlanta, Ga.
Treplow Prods., Inc., 59 Camden St., Paterson, N. J.
Ultra Chemical Works, 2 Wood St., Paterson, N. J.
Van Dyk & Co., Belleville, N. J.
Victor Chem. Works, 155 N. Wacker Dr., Chicago
Wyandotte Chems. Corp., Michigan Alkali Div., Wyandotte, Mich.

SURGICAL SOAPS (see Potash Soaps)

SWEEPING COMPOUNDS

Badger Plug Co., Appleton, Wis.
Capitol Soap Corp., Colfax Ave., Clifton, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Creco Co., Inc., Creco Bldg., Long Island City, N. Y.
Eagle Soap Co., Huntington, Ind.
Fitch Dustdown Co., 801 S. Howard St., Baltimore
Fuld Bros., 702 S. Wolfe St., Baltimore
R. M. Hollingshead Corp., Camden, N. J.
Hysan Products Co., 936 W. 38th Place, Chicago
Johns-Manville Prods. Corp., 22 E. 40th St., N. Y. 16
Klix Chem. Co., 551 Railroad St., San Francisco
Frank Miller & Sons, 2250 W. 58th St., Chicago
Natl. Sawdust Co., 69 N. 6th St., Bklyn.
North Coast Soap & Chem. Wks., Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Sanco Prods. Inc., Greenville, O.
S. & S. Soap Co., 815 E. 135th St., N. Y. 54
Sanitary Soap Co., 104 Railroad Ave., Paterson, N. J.
Surety Laboratories, 3946 Olive St., St. Louis
Sweeping Compound Mfrs. Co., 421 Broome St., N. Y.
Tesco Chemicals, Inc., Atlanta 5, Ga.
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.

SYNTHETIC DETERGENTS (see Detergents)

TABLET MANUFACTURE (for the trade)

Academy Mfg. Drug Corp., 544 E. 171st St., N. Y. 57
Arner Co., Buffalo 3, N. Y.
Frontier Chem. Products, Inc., 119 E. Soper St., St. Louis 11
Pharmco, Inc., 2292 Lakeland Blvd., Cleveland 23
Strong, Cobb & Co., Cleveland 4, Ohio

TALC

Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Eastern Magnesia Talc Co., Burlington, Vt.
Georgia Talc Co., Asheville, N. C.
Orbis Products Corp., 601 W. 26th St., N. Y.
Pacific Coast Talc Co., Los Angeles, Cal.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y. 10
L. A. Salomon & Bro., 216 Pearl St., N. Y.
Tamms Industries, Inc., 228 N. LaSalle St., Chicago
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Chas. A. Wagner Co., Inc., 4455 N. 6th St., Phila. 23
Welch, Holme & Clark Co., Inc., 439 West St., N. Y.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.
Wyodak Chemical Co., 4600 E. 71st St., Cleveland

TALL OIL (Crude and Refined)

Albemarle Paper Mfg. Co., Richmond 17, Va.
Amsco Solvents & Chems. Co., 4619 Reading Rd., Cincinnati
Archer-Daniels-Midland Co., Minneapolis 2
Arizona Chemical Co., 30 Rockefeller Plaza, New York
Brunswick Pulp & Paper Co., Brunswick, Ga.
Buffalo Solvents & Chem. Corp., P. O. No. 73, Sta. B, Buffalo
Central Solvents & Chems. Co., 2540 W. Flournoy St., Chicago
Champion Paper & Fibre Co., Canton, N. C.
Concord Chemical Co., 205 S. 2nd St., Camden 1, N. J.
Continental Can Co., Hummel-Ross Division, Hopewell, Va.
Crosby Chemicals, Inc., Picayune, Miss.
Dixie Solvents & Chems. Co., Dixie Highway at Appleton Lane, Louisville, Ky.

TALL OIL (Contd.)

Crossett Chemical Co., Crossett, Ark.
Gaylord Container Corp., 111 N. 4th St., St. Louis
Glidden Co., Jacksonville, Fla.
Gulf States Paper Co., Tuscaloosa, Ala.
Hercules Powder Co., Wilmington, Dela.
Hoosier Solvents & Chems. Corp., 1650 Luett St., Indianapolis
Hudson Pulp & Paper Co., 477 Madison Ave., N. Y. 22
Missouri Solvents & Chems. Co., 419 DeSoto St., St. Louis
National Southern Products Corp., Tuscaloosa, Ala.
Newport Industries, Inc., Div. Heyden Newport Chem. Co., 230 Park Avenue, New York
Ohio Solvents & Chems. Co., 3470 W. 140th St., Cleveland
Pacific Vegetable Oil Corp., 62 Townsend St., Los Angeles
Southern Advance Bag & Paper Div., 38 Newbury St., Boston
K.A. Steel Chems., Inc., 7450 Stony Island Ave., Chicago
Texas Solvents & Chem. Co., 8501 Market St., Houston
Toledo Sols. & Chems. Co., 4051 South Ave., Toledo, O.
Union Bag Camp Paper Corp., 233 Broadway, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y. 14
West Virginia Pulp & Paper Co., 230 Park Ave., New York
Western Sols. & Chems. Co., 6472 Selkirk Ave., Detroit
Wisconsin Solvents & Chems. Corp., 1719 S. 83rd St., Milwaukee
Wolverine Solvents & Chems. Co., 2940 Stafford Ave. SW, Grand Rapids, Mich.

TALL OIL FATTY ACIDS

Arizona Chemical Co., 30 Rockefeller Plaza, N. Y.
Armour & Co., 1355 W. 31st St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago 9
Hercules Powder Co., Wilmington, Dela.
National Southern Products, Tuscaloosa, Ala.
Newport Industries, Inc., Div. Heyden Newport Chem. Co., 230 Park Ave., N. Y. 17
Texas Solvents & Chem. Co., 8501 Market St., Houston
Union Bag Camp Paper Corp., 233 Broadway, N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.
West Virginia Pulp & Paper Co., 230 Park Ave., N. Y. 17
G. S. Ziegler & Co., Box 348, Great Neck, N. Y.

TALLOW and GREASE (see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Belleville Rendering Co., Belleville, Ill.
Consolidated Rendering Co., 178 Atlantic Ave., Boston
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Cudahy Packing Co., 221 N. LaSalle St., Chicago
Darling & Co., 4201 S. Ashland Ave., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Independent Mfg. Co., Bridesburg P. O., Phila.
Long Island Soap Co., 27 Bridgewater St., Brooklyn
Louisville Butchers' Hide & Tallow Co., Louisville, Ky.
Neatsfoot Oil Refineries Corp., E. Ontario & Bath Sts., Phila.
Newman Tallow & Soap Mach. Co., 1051 W. 35th, Chicago
Norco Prods. Co., E. Ontario & Bath, Sts., Phila.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Waltham Tallow Co., Waltham, Mass.
Welch, Holme & Clark Co., Inc., 439 West St., N. Y.
Wilson-Martin Div., Wilson & Co., Snyder Ave. & Swanson St., Phila.
Wessel-Duval & Co., 67 Broad St., N. Y. C.

TALLOW CHIP SOAP (see Chip Soaps)

TALLOW OIL (see also Brokers and Dealers)

Armour & Co., 1355 W. 31st St., Chicago
Consolidated Rendering Co., 40 N. Market St., Boston
Cudahy Packing Co., 111 W. Monroe St., Chicago
Eastern Industries, Inc., Ridgefield, N. J.
Harchem Div., Wallace & Tiernan, Inc., 25 Main St., Belleville, N. J.
Independent Mfg. Co., Bridesburg P. O., Phila.
Neatsfoot Oil Refineries Corp., E. Ontario & Bath Sts., Phila.
Norco Prods. Co., E. Ontario & Bath Sts., Phila.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Theobald Industries, P. O. Box 72, Harrison, N. J.
Waltham Tallow Co., Waltham, Mass.
Welch, Holme & Clark Co., 439 West St., N. Y.
West Coast Fert. & Rendering Co., Los Angeles
Wilson & Co., Union Stock Yards, Chicago

TANKS (Clad and Stainless Steel)

Alloy Prods. Corp., 221 Madison St., Waukesha, Wis.
Alsop Engineering Corp., Milldale, Conn.
Bennett Industries, Peotone, Ill.
S. Blickman, Inc., 72 Gregory Ave., Weehawken, N. J.
Builders Sheet Metal Works, 108 Wooster St., N. Y. 12
Conn & Co., Warren, Pa.
Craddock Equipment Co., 1507 A St., Wilmington, Del.
J. H. Day & Co., Cincinnati 12
Edge Moor Iron Wks., Edge Moor, Del.
Graver Tank & Mfg. Corp., 332 S. Michigan, Chicago
Houchin Machinery Co., Hawthorne, N. J.
Industrial Process Engineers, 8 Lister Ave., Newark 5, N. J.
Lancaster Iron Works, 564 S. Prince St., Lancaster, Pa.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Littleford Bros., 453 E. Pearl St., Cincinnati
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)
Lukens Steel Corp., Coatesville, Pa.
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
M.R.M. Co., 191 Berry St., Brooklyn
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Patterson Kelley Co., East Stroudsburg, Pa.
Petroleum Iron Works, Sharon, Pa.
Pfaudler Co., 1000 West St., Rochester, N. Y.
Pioneer Tank & Boiler Co., Tulsa, Okla.
H. K. Porter Co., 49th & Harrison Sts., Pittsburgh
Geo. G. Rodgers Co., 2401 Third Ave., N. Y.
Sprout, Waldron & Co., Muncy, Pa.
Struthers-Wells Corp., Warren, Pa.
Young Machy. Co., Muncy, Pa.

TANKS (Wooden)

Atlantic Tank & Barrel Co., North Bergen, N. J.
Conn & Co., Warren, Pa.
Hauser-Stander Tank Co., Ivorydale, Cinn.
Kalamazoo Tank & Silo Co., Kalamazoo, Mich.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J. (Mixing)
New England Tank & Tower Co., Everett, Mass.
Pacific Tank & Pipe Co., 334 Market St., San Francisco
H. K. Porter Co., 49th & Harrison Sts. Pittsburgh
Sprout, Waldron & Co., Muncy, Pa.
Tippett & Wood, Phillipsburg, N. J.

TAR ACID OIL (see Coal Tar Raw Materials)

TAR ACIDS, High Boiling

Baird & McGuire, Inc., Holbrook, Mass.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Coal Tar Chemicals, 420 Lexington Ave., N. Y.
Concord Chemical Co., 205 S. 2nd St., Camden 1, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Merichem Co., 3201 Fannin St., Houston 4, Tex.
Monsanto Chem. Co., St. Louis
Neville Chemical Co., Pittsburgh
Reilly Tar & Chem. Co., Merchants Bank Bldg., Indianapolis
Tar Residuals, Inc., 420 Lexington Ave., N. Y. 17
Shell Chemical Corp., 50 W. 50th St., N. Y.
U. S. Steel Corp., Pittsburgh 30

TEASEED OIL

Camilli, Albert & Laloue, 15 E. 48th St., N. Y. 17
T. G. Cooper & Co., 2400 E. Venango St., Phila. 34
Geo. Degen & Co., 111 Broadway, N. Y. 6
Eastern Industries, Inc., Ridgefield, N. J.
Pacific Vegetable Oil Corp., 62 Townsend St., San Francisco
E. M. Sergeant Chemical Co., 7 Day St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y. 14

TERPINEOL (see also Essential Oils)

Aromatic Products, Inc., 235 4th Ave., N. Y. 3
Crosby Chemicals, Inc., Picayune, Miss.
Dodge & Olcott, Inc., 180 Varick St., N. Y.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, N. Y.
Firmenich, Inc., 250 W. 18th St., N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Bros., 76–9th Ave., N. Y. 11
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Glidden Co., Jacksonville, Fla.
Hercules Powder Co., 961 Market St., Wilmington
Newport Industries, Inc., Div. Heyden Newport Chem. Corp., 230 Park Ave., N. Y.

TERPINEOL (Contd.)

Polak's Frutal Works, 33 Sprague St., Middletown, N. Y.
Schimmel & Co., 601 W. 26th St., N. Y. 1
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
van Ameringen-Haebler, Inc., 521 W. 57th St., N. Y.
Verona Chem. Co., 26 Verona Ave., Newark, N. J.

TESTING (see Laboratories, Testing)

TETRAPROPYLENE

Enjay Co., 15 W. 51st St., N. Y. 19
Sinclair Chemicals, 600 Fifth Ave., N. Y.

TETRASODIUM PYROPHOSPHATE

Blockson Chemical Co., Joliet, Ill.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Monsanto Chemical Co., St. Louis
Rumford Chem. Wks., Rumford, R. I.
Shea Chem. Corp., Jeffersonville, Ind.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chem. Corp., Richmond 5, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Mineral Prods. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y.

TEXTILE SOAPS and SPECIALTIES

American Alcolac Corp., 3440 Fairfield Rd., Baltimore
American Soap & Washoline Co., Cohoes, N. Y.
Antara Chems. Div., GAF, 435 Hudson St., N. Y. 14
Armour & Co., 1355 W. 31st St., Chicago 9
Atlas Powder Co., Wilmington 99, Dela.
Beach Soap Co., Lawrence, Mass.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Chem. Service Co. of Baltimore, Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Colgate-Palmolive Co., 300 Park Ave., N. Y. 22
Crystal Soap & Chem. Co., 6300 State Rd., Phila. 35
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
E. I. du Pont de Nemours & Co., Wilmington
Eagle Soap Co., Huntington, Ind.
Emery Industries, 4200 Carew Tower, Cincinnati
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Fiber Chem. Corp., Matawan, N. J.
Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
H. Kohnstamm & Co., 91 Park Pl., N. Y.
Laurel Soap Mfg. Co., Tioga St., Phila.
Long Island Soap Co., 29 Bridgewater St., Brooklyn
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
Marchon Prods. Ltd., Whitehaven, Cumberland, England
M. Michel & Co., 90 Broad St., N. Y.
Miranol Chemical Co., 277 Coit St., Irvington, N. J.
Mona Industries, Inc., 65 E. 23rd St., Paterson, N. J.
National Milling & Chemical Co., 4601 Flat Rock Rd., Phila. 27
National Soap Co., 357 South 26th St., Tacoma, Wash.
National Southern Products, Tuscaloosa, Ala.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Olin Mathieson Chem. Corp., Baltimore 3, Md.
Onyx Oil & Chemical Co., Warren & Morris Sts., Jersey City 2
Original Bradford Soap Wks., West Warwick, R. I.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
Quaker Chem. Prods., Conshohocken, Pa.
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.
Refined Prods. Corp., Lyndhurst, N. J.
Sanders Chem. Co., 2205 N. American St., Phila. 23
Sandoz Chemical Works, 61 Van Dam St., N. Y.
Standard Soap Co., Div., Concord Chem. Co., 205 S. 2nd St., Camden, Div.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Union Stock Yards, Chicago
Ultra Chem. Wks., Inc., 2 Wood St., Paterson, N. J.
Warren Soap Mfg. Co., 51 Waverly St., Cambridge, Mass.
Warwick Chemical Co., 10 St. & 44th Ave., Long Island City, N. Y.
Jacques Wolf & Co., 350 Lexington Ave., Passaic, N. J.

TEXTILE SOFTENERS (see Softeners, Textile)

THALLIUM SULFATE

Berkshire Chemicals, Inc., 420 Lexington Ave., N. Y. 17
Foote Mineral Co., 1609 Summer St., Phila.
Merck & Co., Rahway, N. J.
Pfaltz & Bauer, Inc., 350–5th Ave., N. Y.
Robeco Chems., Inc., 23 E. 26th St., N. Y.

THANITE

Hercules Powder Co., Wilmington

THEATRE SPRAYS (Deodorant Sprays)

Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
A-M-R Chem. Co., 985 E. 35th St., Bklyn. 10
Baird & McGuire, Inc., Holbrook, Mass.
Banner Chemical Prod. Co., 9 Calumet St., Newark, N. J.
Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 Throop St., Chicago
Continental Industries, Inc., Brazil, Ind.
Eagle Soap Co., Huntington, Ind.
Elkay Products Corp., 323 W. 16th St., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
James Good Co., 2107 Susquehanna Ave., Phila.
Higley Chemical Co., Dubuque, Iowa
Hysan Prods. Co., 936 W. 38th Place, Chicago
Midland Labs., Dubuque, Ia.
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Rochester Sanitary Prods. Co., Rochester, N. Y.
I. Schneid, Inc., 916 Ashby St., NW, Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
E. B. Snyder Laboratories, 2137 E. Harold St., Phila.
Trio Chem. Wks., 341 Scholes St., Bklyn. 6
Uncle Sam Chemical Co., 573 W. 131st St., N. Y. C.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis 15
Williams Chem. Co., 487 Broadway, N. Y. 13

THIOGLYCOLIC ACID

Evans Chemetics, Inc., 250 E. 43rd St., N. Y. 17
Mutchler Chem. Co., 259 Broadway, N. Y. 7
Rayette, Inc., 261 E. 5th St., St. Paul, Minn.

TIN CRYSTALS (Stannous Chloride)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
J. T. Baker Chem. Co., Phillipsburg, N. J.
E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Metal & Thermit Corp., 120 Broadway, N. Y.

TITANIUM OXIDE (for toilet soaps)

American Cyanamid Co., 30 Rockefeller Plaza, N. Y. 20
E. I. du Pont de Nemours & Co., Wilmington, Del.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Titanium Pigment Co., 111 Broadway, N. Y.
R. T. Vanderbilt Co., 230 Park Ave., N. Y.
Whittaker, Clark & Daniels, 260 W. Bway., N. Y.
Witco Chemical Co., 122 E. 42nd St., New York

TOILET PREPARATIONS (Private Label) (see also Bath Salts, Shampoos, etc.)

A.M.R. Chem. Co., 985 E. 35th St., Bklyn.
Avon Products, Inc., Suffern, N. Y.
G. Barr & Co., 3601 S. Racine Ave., Chicago
Continental Filling Corp., 123 N. Hazel Ave., Danville, Ill.
Fuld Bros., 702 S. Wolfe St., Baltimore 3
R. Gesell, Inc., 200 W. Houston, N. Y.
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Pack-it, 222 Pacific St., Newark 5, N. J.
Pharmco, Inc., 22292 Lakeland Blvd., Cleveland 23
Shores Co., Cedar Rapids, Ia.
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOILET SOAPS, CAKE (Private Label)

Armour & Co., 1355 W. 31st St., Chicago
Baum's Castorine Co., Rome, N. Y.
Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago

TOILET SOAPS, CAKES (PRIVATE LABEL) (Contd.)

Colgate-Palmolive Co., 380 Park Ave., N. Y. 22
Duveen Soap Corp., 36-14 35th St., Long Island City, N. Y.
Haag Labs., Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Hewitt Soap Co., Dayton, O.
Lever Bros. Co., 390 Park Ave., N. Y.
Long Island Soap Co., 29 Bridgewater St., Brooklyn
Lightfoot Schultz Co., 380 Madison Ave., N. Y.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Cal.
National Soap Co., Box 1613, Tacoma, Wash.
North Coast Soap & Chem. Wks., Seattle, Wash.
G. H. Packwood Mfg. Co., 1545 Tower Grove Ave., St. Louis
Procter & Gamble Co., Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Scientific Cosmetics, 242 W. 27th St., N. Y. C.
John T. Stanley Co., 642 W. 30th St., N. Y.
Swift & Co., Chicago
Warren Soap Mfg. Co., Brighton, Mass.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOILET SOAP BASE (for Cakes)

Armour & Co., 1355 W. 31st St., Chicago
Duveen Soap Corp., 36-14 35th St., Long Island City 6, N. Y.
Hewitt Soap Co., Dayton, O.
Los Angeles Soap Co., 617 E. 1st St., Los Angeles, Calif.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Peck's Products, 610 E. Clarence Ave., St. Louis
Procter & Gamble Dist. Co., Cincinnati
Schmidt Soap Products Co., 236 W. North Ave., Chicago
Swift & Co., Chicago 9
John T. Stanley Co., 642 W. 30th St., N. Y.
Allen B. Wrisley Co., 6801 W. 65th St., Chicago, Ill.

TOOTH PASTE (Private Label)

Avon Products, Inc., Suffern, N. J.
R. Gesell, Inc., 200 W. Houston St., N. Y.
Old Empire, Inc., Mt. Prospect & Verona Ave., Newark, N. J.
Sheffield Tube Corp., New London, Conn.
John T. Stanley Co., 642 W. 30th St., New York
Allen B. Wrisley Co., 6801 W. 65th St., Chicago

TOXAPHENE

Hercules Powder Co., 961 Market St., Wilmington, Del.

TOXAPHENE FORMULATIONS (Bases and Finished Sprays and Powders)

Acock Laboratories, 2700 E. 5th St., Austin, Tex.
Agricultural Chemical Co., 18th & E. Jackson Sts., Phoenix, Ariz.
Agricultural Sulphur & Chem. Co., 417 N. Perry St., Montgomery, Ala.
American Potash & Chem. Corp., 3030 W. 6th St., Los Angeles 54
Ashcraft-Wilkinson Co., Trust Co. of Georgia Bldg., Atlanta, Ga.
Balcom Industries, 600-601 Tenth St., Greeley, Colo.
California Spray-Chemical Corp., Richmond, Calif.
Central Chem. Co., 49 N. Jonathan St., Hagerstown, Md.
Chapman Chem. Co., 38 Court St., Memphis, Tenn.
Chem. Insecticide Corp., 129 Montague St., Bklyn. 1
Chipman Chem. Co., Bound Brook, N. J.
William Cooper & Nephews, 1909 Clifton St., Chicago
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Douglas Chem. Co., 620 E. 16th Ave., North Kansas City, Mo.
Durham Chem. Co., 4124 E. Pacific Way, Los Angeles
Flag Sulphur & Chem. Co., Tampa, Fla.
Florida Agricultural Supply Co., Box 658, Jacksonville, Fla.
Food Machy. Corp., Niagara Sprayer & Chem. Div., Middleport, N. Y.
Fresno Agricultural Chem. Co., Fresno, Calif.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Geigy Agric. Chems., Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Georgia-Carolina Oil Co., 1403 Sixth St., Macon, Ga.
Hayes-Sammons Co., Mission, Texas
Kwik-Way Chem. Co., Box 2536, San Antonio, Texas
O. E. Linck Co., Route 6 & Valley Rd., Clifton, N. J.
McConnon and Co., Winona, Minn.
McLaughlin, Gormley, King Co., 1715 S.E. 5th St., Minneapolis
C. J. Martin & Sons, 413 Chicon St., Austin, Texas
Naco Fertilizer Co., Box 858, Charleston, S. C.
Naugatuck Chem. Div., U. S. Rubber Co., Naugatuck, Conn.
Pennsylvania Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Phoenix Chem. Co., 19th Ave. & Roosevelt, Phoenix, Arix.
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
Plainsman Supply Co., Plainview, Texas
Port Fertilizer & Chem. Co., Los Fresnos, Texas
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Ralston Purina Co., 835 S. 8th St., St. Louis
Reasor-Hill Corp., Jacksonville, Ark.
Riverdale Chem. Co., 324—174th St., Harvey, Ill.
Shell Chemical Corp., 460 Park Ave., N. Y.
Sherwin-Williams Co., 101 Prospect Ave., N.W., Cleveland
Southwest Co-operative Wholesale, 1821 E. Jackson St., Phoenix, Ariz.
Stauffer Chem. Co., 380 Madison Ave., New York
Thompson-Hayward Chemical Co., 2915 S. W. Blvd., Kansas City, Mo.
Tyner-Petrus Co., 100 Trenton St., West Monroe, La.
F. H. Vahlsing, Inc., Elsa, Texas
Woolfolk Chemical Works, Fort Valley, Ga.

TRIETHANOLAMINE (see Listings under Ethanolamines)

TRIETHANOLAMINE SOAPS

Chem. Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods., 3100 S. Throop St., Chicago 8
Continental Oil Co., 630 5th Ave., N. Y. 20
Davies-Young Soap Co., Dayton, O.
E. F. Drew & Co., 15 E. 26th St., N. Y. 10
Fuld Bros., Inc., 702 S. Wolfe St., Baltimore
General Biochemicals, Inc., Chagrin Falls, O.
James Good, Inc., 2107 E. Susquehanna Ave., Phila.
Hysan Prods. Co., 936 W. 38th Place, Chicago
Kranich Soap Co., 60 Richards St., Bklyn.
Old Empire, Inc., 865 Mt. Prospect Ave., Newark, N. J.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
George Stearns Chem. Corp., Madison 4, Wis.
Trio Chemical Wks., 341 Scholes St., Bklyn. 6

TRIETHANOLAMINE SULFONATES

Finetex, Inc., 418 Falmouth Ave., East Paterson, N. J.
Ninol Laboratories, Prudential Plaza, Chicago
Pilot California Co., 215 W. 7th St., Los Angeles, Calif.
Process Chems. Co., 8733 S. Dice Rd., Los Nietos, Calif.
Tennessee Corp., 617 Grant Ave., Atlanta, Ga.

TRIPOLYPHOSPHATES (see Sodium Tripolyphosphate)

TRIPROPYLENE

Enjay Co., 15 W. 51st St., N. Y. 19

TRISODIUM PHOSPHATE (see also Brokers and Dealers)

Amer. Agricultural Chem. Co., 50 Church St., N. Y.
Blockson Chemical Co., Joliet, Ill.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Monsanto Chemical Co., St. Louis
Rumford Chem. Wks., Rumford, R. I.
Shea Chem. Corp., Jeffersonville, Ind.
Jos. Turner & Co., Ridgefield, N. J.
Victor Chemical Works, 155 N. Wacker Dr., Chicago 6
Virginia-Carolina Chemical Corp., Richmond, Va.
Welch, Holme & Clark Co., 439 West St., N. Y.
Westvaco Mineral Prods. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N. Y.

TUBE FILLING MACHINERY (see Filling Machy., Tube)

TUBES (Collapsible)

Aluminum Company of America, Pittsburgh
Art Tube Co., Irvington, N. J.
Bradley Container Corp., Maynard, Mass.
National Collapsible Tube Co., Providence, R. I.
Peerless Tube Co., 58 Locust Ave., Bloomfield, N. J.
Sheffield Tube Co., New London, Conn.
Sun Tube Corp., 181 Long Ave., Hillside, N. J.
Wheeling Stamping Co., 2116 Water St., Wheeling, W. Va.
White Metal Mfg. Co., 1012 Grand St., Hoboken, N. J.
A. H. Wirz, Inc., Chester, Pa.

TUBES and TUBING (Celluloid, Acetate, Plastic, etc.)

Bradley Container Corp., Maynard, Mass.
Lusteroid Container Co., So. Orange, N. J.
Hydrawlik Co., 131 E. 1st Ave., Roselle, N. J.
Hygienic Tube Co., Newark, N. J.

TUNG OIL

Archer-Daniels-Midland Co., Minneapolis, Minn.
Atkins Kroll & Co., 320 California St., San Francisco 4
Balfour Guthrie & Co., 67 Wall St., N. Y. 5
Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
Brown-Allen Chemicals, Inc., Port Richmond, Staten Island, N. Y.
Geo. Degen & Co., 111 Broadway, N. Y. 6
W. R. Grace & Co., 7 Hanover Sq., N. Y. 5
Internatio Rotterdam, Inc., 61 Broadway, N. Y. 6, N. Y.
Pacific Veg. Oil Corp., 62 Townsend St., San Francisco
Werner G. Smith, Inc., 1730 Train Ave., Cleveland 13
G. A. Wharry & Co., 125 Broad St., N. Y.
Woburn Chemical Corp., Harrison, N. J.

TURPENTINE

American Turpentine Farmers Association, Valdosta, Ga.
Antwerp Naval Stores Co., Savannah, Ga.
Continental Turp. & Rosin Corp., Laurel, Miss.
Crosby Chemicals, Inc., Picayune, Miss.
Dixie Pine Prods. Co., Hattiesburg, Miss. (wood)
Georgia Rosin Prods. Co., Brunswick, Ga.
Glidden Co., Jacksonville, Fla.
Hercules Powder Co., 961 Market St., Wilmington, Del.
Newport Industries, Inc., Div. Heyden Newport Chem. Corp., 230 Park Ave., N. Y.
Phoenix Naval Stores Co., Gulfport, Miss. (wood)
West Virginia Pulp & Paper Co., 230 Park Ave., N. Y. 17

UBATOL

UBS Chem. Corp., 491 Main St., Cambridge, Mass.

UNSCRAMBLERS, ROTARY AND STRAIGHT (for cans and bottles)

Chisholm Ryder Co. of Pa., Hanover, Pa.
Filler Machine Co., 10 Penn Ave., Phila. 11
Filpaco Industries, 2464 S. Michigan Ave., Chicago 16
Horix Mfg. Co., 2609 Chartiers Ave., Pittsburgh 4
Horney & Co., 420 Lexington Ave., N. Y.
Island Equipment Corp., 27-01 Bridge Plaza N., L. I. C., N. Y.
M. R. M. Co., 191 Berry St., Bklyn.
Standard-Knapp Div., of Emhart Mfg. Co., Portland, Conn.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
U. S. Bottlers Machy. Co., 4019 N. Rockwell St., Chicago

UREA

E. I. du Pont de Nemours & Co., Wilmington, Del.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Grace Chemical Co., 3 Hanover Sq., N. Y.
Nitrogen Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.

USED MACHINERY AND EQUIPMENT

Brill Equipment Corp., 2401 Third Ave., N. Y.
Chemical & Process Machy. Corp., 52 9th St., Bklyn.
Consolidated Products Co., 59 Garden St., Hoboken, N. J.
Emsco Equipment Co., 39 Hyatt Ave., Newark, N. J.
J. L. Ferguson Co., Joliet, Ill.
First Machy. Corp., 209 10th St., Bklyn.
Houchin Machinery Co., Hawthorne, N. Y.
Jasper Machy. Co., 282 Sixth St., Bklyn. 15
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Loeb Equipment Supply Co., 810 W. Superior Ave., Chicago
Newman Tallow & Soap Machy. Co., 1051 W. 35th St., Chicago
Perry Equipment Corp., 1515 W. Thompson St., Phila. 21, Penna.
Prater Pulverizing Co., 1825 S. 55th Ave., Chicago
Chas. Ross & Son Co., 150 Classon Ave., Bklyn. 5, N. Y.
Stein Equipment Co., 107–8th St., Bklyn. 15
Union Standard Equipment Co., 318 Lafayette St., N. Y. 12

VALVES, for Aerosol Dispensers (see Aerosol Valves)

VANILLIN

Aromatic Products, Inc., 235 4th Ave., N. Y.
Dodge & Olcott Inc., 180 Varick St., N. Y.
Dow Chemical Co., Midland, Mich.
P. R. Dreyer, Inc., 601 W. 26th St., N. Y.
Felton Chemical Co., 603 Johnson Ave., Brooklyn, New York
Fine Chems. Div., Shulton, Inc., 630 5th Ave., N. Y.
Florasynth Laboratories, 900 Van Nest Ave., N. Y.
Fritzsche Bros., 76–9th Ave., N. Y. 11
Givaudan-Delawanna, Inc., 330 W. 42nd St., N. Y.
Geo. Lueders & Co., 427 Washington St., N. Y. 13
Maywood Chemical Co., Maywood, N. J.
Monsanto Chemical Co., St. Louis, Mo.
Norda Essential Oil & Chem. Co., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y. 8
Schimmel & Co., 601 W. 26th St., N. Y. 1
Sterwin Chemicals, Inc., 1450 Broadway, N. Y. 18, N. Y.
Ungerer & Co., 161 Ave. of Americas, N. Y. 13
Verona Chemical Co., 26 Verona Ave., Newark, New Jersey

VAPORIZERS (Insecticide, Deodorizing, Perfuming, etc.) (see also Sprayers and Atomizers)

Allied Block Chemical Co., 428 Bingham St., Pittsburgh 3, Pa.
American Aerovap, Inc., 170 W. 74th St., New York 23
Associated Products Co., Bakerstown, Pa.
Columbia Chemical Co., 154 E. Erie St., Chicago
De-Bug-Er, Inc., 632 W. Washington Ave., Madison, Wis.
Evans-Crowder Co., South Lyon, Mich.
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Keystone Scent Conditioner Corp., 315 N. 12th St., Philadelphia 7
Royal Industries, Inc., 23 S. Center St., Springfield, Ohio
Star Porcelain Co., 33 Muirhead Ave., Trenton, N. J.
Universal Electric Prods., 2201 Regent St., Madison 5, Wis.
Utica Sanitary Specialties, Inc., Oriskany Blvd., Whitesboro, N. Y.

VARNISH GUMS (see Gums)

VETIVER OIL (see Essential Oils)

VOLCANIC ASH (see Abrasives and Fillers)

WARFARIN

S. B. Penick & Co., 50 Church St., N. Y. 8
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1

WARFARIN FORMULATIONS

A-M-R Chem. Co., 985 E. 35th St., Bklyn.
Ampion Corp., 4-88 47th St., Long Island City, N. Y.
California-Spray Chemical Corp., Richmond, Calif.
Chase Products Co., 1816 St. Charles Rd., Maywood, Ill.
Chem. Insecticide Corp., 129 Montague St., Bklyn. 1
Chemical Service of Baltimore, Howard & West Sts., Balto.
Douglas Chem. Co., 620 E. 16th Ave., North Kansas City, Mo.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agric. Chems., Ardsley, N. Y.
Hysan Products Co., 936 W. 38th Pl., Chicago
John Opitz, Inc., 50-14 39th St., Long Island City, N. Y.
S. B. Penick & Co., 50 Church St., N. Y. 8
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y. 1
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Residex Corp., Foot of Centre St., Newark, N. J.
Science Industries, 1509 N. Broadway, St. Louis
Sennewald Drug Co., 2721 Chouteau Ave., St. Louis
Uncle Sam Chemical Co., 573 W. 131st St., N. Y.
U., S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago
Warsaw Chem. Co., Warsaw, Ind.
York Chem. Co., 23 Dean St., Bklyn.

WASHFASTNESS TESTERS (see Laboratory Apparatus and Equipment)

WASHING MACHINERY (drums and barrels)

Aceto Products, Inc., Hellertown, Pa.
Eureka Machine Co., 2061 Vega Ave., Cleveland
L. M. Gilbert & Co., 1505 Race St., Phila.
Harnischfeger Corp., 4400 W. National Ave., Milwaukee
Industrial Washing Machine Corp., Matawan, N. J.
Vol-U-Meter Co., 707 Ohio St., Buffalo

WATER CONDITIONING EQUIPMENT

Belco Ind. Equipment Co., 51 Iowa Ave., Paterson, N. J.
Permutit Co., 330 W. 42nd St., N. Y.

WATER REPELLANTS (Silicone)

Dow-Corning Corp., Midland, Mich.
General Electric Co., Waterford, N. Y

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NAME OF WAX	M.P. A.S.T.M. D-127-30	PENETRATION 100G/77°/ 5 SEC.	COLOR N.P.A.	ACID NUMBER	SAPONIFICATION VALUE	TYPE
Cardis Polymer #8	205–210	1–2	3–5	7–10	24–28	Polymer
Cardis One* [1]	195–200	1–2	4–5	12–16	55–65	Emulsifiable Petroleum Wax
Cardis 314*	184–189	4–6	4–5	13–16	45–55	Emulsifiable Petroleum Wax
Cardis 319*	180–185	5–7	4–6	18–20	65–70	Emulsifiable Petroleum Wax
Cardis 320*	180–185	5–7	4–5	28–30	75–80	Emulsifiable Petroleum Wax
Cardis 262*	195–200	3–5	Brown	14–17	40–45	Specially Processed Petroleum Wax
Polymekon* [2]	195 MIN.	0–3	Yellow	0–0	0–0	Specially Processed Petroleum Wax
Fortex*	190–200	3–5	2½–3½	0–0	0–0	Microcrystalline Hard & Plastic
Mekon* B-20	190–195	3–5	Brown-Black	0–0	0–0	Microcrystalline Hard & Brittle
Mekon* A-20	190–195	3–5	Amber-6 Max.	0–0	0–0	Microcrystalline Hard & Brittle
Mekon* Y-20	190–195	3–5	Yellow-3-3½	0–0	0–0	Microcrystalline Hard & Brittle
Warco* Wax 180 White	180–185	4–7	White	0–0	0–0	Microcrystalline Hard & Brittle
Warco* Wax 180 Brown	180–185	4–7	Brown	0–0	0–0	Microcrystalline Hard & Brittle
Warco* Wax 170-A Yellow	170–175	10–15	Yellow 1-2	0–0	0–0	Microcrystalline Plastic
Warco* Wax 170-A Brown	170–175	10–15	Brown	0–0	0–0	Microcrystalline Plastic
Warco* Wax 150-A Yellow	145–155	15–20	Yellow 1-2	0–0	0–0	Microcrystalline Plastic
Warco* Wax 150-A Brown	145–155	15–20	Brown	0–0	0–0	Microcrystalline Plastic
Warcosine*	150–155	15–20	White	0–0	0–0	Microcrystalline Plastic
Paraffin	136–138	FULLY REFINED				Crystalline
Cane Wax 500	171–176	3 Max.	Light Brown	25–35	55–70	Vegetable Wax
Cane Wax 517-711	171–173	2 Max.	Black	—	—	Vegetable Wax
Cane Wax 700	169–174	1.0–1.5	Light Brown	25–30	70–90	Vegetable Wax

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WATER REPELLENTS (SILICONE) (Contd.)

Linde Air Prods., 30 E. 42nd St., N. Y.
Union Carbide & Carbon Corp., 420 Lexington Ave., N. Y.

WATER SOFTENERS

Amer. Agricultural Chem. Co., 50 Church St., N. Y.
American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., N. Y. 14
Blockson Chemical Co., Joliet, Ill.
Columbia-Southern Chem. Corp., Pittsburgh
Dow Chem. Co., Midland, Mich.
Emkay Chem. Co., 319 2nd St., Elizabeth, N. J.
E. I. du Pont de Nemours & Co., Wilmington
Geigy Industrial Chemicals, Ardsley, N. Y.
Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y. 6
Glyco Prods. Co., 350 5th Ave., N. Y.
Miranol Chem. Co., 277 Coit St., Irvington, N. J.
Monsanto Chem. Co., St. Louis
Olin Mathieson Chem. Corp., Baltimore 3
Refined Products Corp., Page & Newkirk Ave., Lyndhurst, N. J.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Rumford Chemical Wks., Rumford, R. I.
Solvay Process Div., Allied Chem. & Dye Corp., 61 Broadway, N. Y.
Ultra Chem. Wks., 2 Wood St., Paterson, N. J.
Westvaco Chem. Div., Food Machy. & Chem. Corp., 161 E. 42nd St., N.Y.
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

WATER STILLS (Automatic)

International Filter Co., 325 W. 25th Pl., Chicago
F. J. Stokes Machine Co., Tabor Rd., Phila., Pa.

WAX APPLICATORS (see Applicators for Floor Wax)

WAXES (Carnauba, Candelilla, Montan, etc. Do not confuse with floor wax)

Aerogon Chemical Industries, 240 Broadway, N. Y. C.
Allied Asphalt & Mineral Corp., 217 Broadway, N. Y.
Amer. Lignite Products Co., Ione, Calif.
Archer-Daniels-Midland Co., Minneapolis 2
M. Argueso & Co., 442 Waverly Ave., Mamaroneck, N. Y.
Balfour, Guthrie & Co., 67 Wall St., N. Y.
Biddle Sawyer Corp., 20 Vesey St., N. Y. 7
Candy & Co., 2515 W. 35th St., Chicago
Cochrane Chem. Co., 151 Main St., Matawan, N. J.
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
T. G. Cooper & Co., Cedar & Venango Sts., Phila.
Wm. Diehl & Co., 114 E. 56th St., N. Y.
Distributing & Trading Co., 444 Madison Ave., N. Y.
Dura Commodities Corp., 20 Vesey St., N. Y. 7
Everitt & Ray, 225 W. 23rd St., Los Angeles 7
Industrial Raw Materials, 575 Madison Ave., N. Y. 22
O. G. Innes Corp., 82 Wall St., N. Y. 5
International Wax Ref. Co., Valley Stream, N. Y.
Koster Keunen, Sayville, N. Y.
Lenape Trading Co., 233 Broadway, N. Y.
Theodore Leonhard Wax Co., Haledon, N. J.
Mercantile Wax Div., Mercantile Metal & Ore Corp., 595 Madison Ave., N. Y.
Geo. A. Miel Co., Page Ave., Lyndhurst, N. J.
Moore & Munger, 33 Rector St., N. Y.
Muench-Kreuzer Candle Co., Syracuse, N. Y.
Orbis Products Corp., 601 W. 26th St., N. Y.
S. B. Penick & Co., 50 Church St., N. Y.
Pennotex Oil Corp., 29 Broadway, N. Y. 6
Prentiss Drug & Chem. Co., 101 W. 31st St., N. Y.
R. F. Revson Co., 144 W. 18th St., N. Y.
River Plate Corp., 573 Ferry St., Newark 5, N. J.
Robinson Wagner Co., 110 E. 42nd St., N. Y.
Robeco Chemicals, Inc., 23 E. 26th St., N. Y.
Frank B. Ross Co., 6-10 Ash Street, Jersey City, N. J.
William H. Scheel, Inc., 38 Franklin St., Bklyn.
Smith & Nichols, Inc., 620 Central Ave., Carlstadt, N. J.
Standard Oil Co., (Calif.), 225 Bush St., San Francisco
F. W. Steadman Co., 59 Pearl St., N. Y.
Strahl & Pitsch, 141 Front St., N. Y.
Strohmeyer & Arpe, 139 Franklin St., N. Y.
Arthur C. Trask Co., 4103 S. LaSalle St., Chicago
Warwick Wax Co., 10-10 44th Ave., L. I. C. 1, N. Y.

WAXES, CARNAUBA, CANDELILLA, MONTAN, ETC., (Contd.)

Wax Corp. of America, 21-29 Dunham Pl., Bklyn.
Wax & Rosin Prods., 42 Broadway, N. Y. 4
Will & Baumer Candle Co., Syracuse, N. Y.
G. S. Ziegler & Co., New Market, N. J.

WAXES, FLOOR AND POLISHING

Ampion Corp., 4-88 47th Ave., Long Island City, N. Y.
Analab Labs., 285 Franklin St., Boston 10
Antiseptol Co., 5524 Northwest Highway, Chicago
Banner Chemical Products Co., 9 Calumet St., Newark 5, N. J.
Baird & McGuire, Inc., Holbrook, Mass.
Betco Corp., 830 Elysian Ave., Toledo 7
Buckingham Wax Corp., Van Dam St. & Borden Ave., L. I. City, N. Y.
Butcher Polish Co., 183 Commercial St., Malden, Mass.
Candy & Co., 2515 W. 35th St., Chicago
Cato Chemical Co., 116 S. York St., Elmhurst, Ill.
Chemical Service of Balto., Howard & West Sts., Balto.
Chicago Sanitary Prods. Co., 3100 Throop St., Chicago
Crystal Soap & Chemical Co., 6300 State Rd., Phila.
Davies-Young Soap Co., Dayton, O.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Co., Huntington, Ind.
Empire Chem. Prods. Co., 10 Longworth St., Newark, N. J.
Essential Chems. Co., 5906 N. Port Washington Rd., Milwaukee
Federal Varnish Division, S. Ashland Ave. at 29th St., Chicago
Finnell System, Inc., 500 East St., Elkhart, Ind.
Franklin Research Co., 5134 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolf St., Baltimore
James Good, Inc., 2107 Susquehanna Ave., Phila.
Golden Star Polish Mfg. Co., 2901 E. 13th St., Kansas City, Mo.
Haag Laboratories, Inc., 14000 S. Seeley Ave., Blue Island, Ill.
Harley Soap Co., Pierce & Orthodox Sts., Phila.
Higley Chemical Co., Dubuque, Iowa
R. M. Hollingshead Corp., Camden, N. J.
Hysan Prods. Co., 936 W. 38th Place, Chicago
S. C. Johnson & Son, 1525 Howe St., Racine, Wisc.
Klix Chem. Co., 551 Railroad Ave., S. San Francisco, Calif.
Knoxall Corp., 1005 E. Sumner Ave., Indianapolis
Magee Chem. Co., 325 W. Main St., Bensenville, Ill.
National Chem. Laboratories, 825 Lombard St., Phila.
Majestic Wax Co., 2139 Blake St., Denver, Colo.
Midland Labs., Dubuque, Iowa
M. & H. Laboratories, 2703 Archer Ave., Chicago
Masury Young Co., 76 Roland St., Boston 29
National Laboratories, Inc., 4934 Lewis Ave., Toledo, O.
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Oil-Kraft, Inc., 3330 Beekman St., Cincinnati
Oil Specialties & Refining Co., 20 Bridge St., Brooklyn, N. Y.
J. C. Paul & Co., 8140 N. Ridgeway Ave., Skokie, Ill.
Peck's Prods., 610 E. Clarence Ave., St. Louis
Pennsylvania Refining Co., Butler, Pa.
Perrow Chemical Co., Hurt, Va.
Piatt & Smillie Chems., 2322 Olive, St. Louis 3
Reily Chem. Co., Industrial Prods. Div., P. O. Box 98, New Orleans, La.
Rex-Cleanwall Corp., 238 S. Murphy Ave., Brazil, Ind.
Royce Chem. Co., Carlton Hill, N. J.
Sanders Chem. Co., 2205 N. American St., Phila. 33
Schaeffer Mfg. Co., 102 Barton St., St. Louis
I. Schneid, Inc., 916 Ashby St., Atlanta, Ga.
Science Industries, 1509 N. Broadway, St. Louis
Simoniz Co., 2100 Indiana Ave., Chicago 16
H. V. Smith & Co., 1910 Univ. Ave., St. Paul, Minn.
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
H. F. Staples Co., Medford, Mass.
Tesco Chemicals, Inc., Atlanta 5, Ga.
Trio Chem. Wks., 341 Scholes St., Bklyn.
Twi-Laq Chemical Co., Grand Ave., Brooklyn
Twin City Shellac Co., 340 Flushing Ave., Brooklyn
Uncle Sam Chem. Co., 573 W. 131st St., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Ave., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Veneer-O-Wax Corp., 2010-12 E. Fletcher St., Phila. 25
Vestal, Inc., 4963 Manchester St., St. Louis 10
T. F. Washburn Co., 2244 Elston Ave., Chicago
Wilco Co., 4425 Bandinni Blvd., Los Angeles
Windsor Wax Co., Inc., 611 Newark St., Hoboken, N. J.
Wyandotte Chemicals Corp., J. B. Ford Div., Wyandotte, Mich.

WAXES, FLOOR (Germicidal)

Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Excelsior Varnish Works, 1219 W. 74th St., Cleveland 2

put shine in your polish

BARECO

MICROCRYSTALLINE WAXES*

*Regular, oxidized and wax-resin blends.

Bareco waxes have been used by leading polish manufacturers for many years. This wide acceptance has enabled Bareco to specialize in the refining of microcrystalline waxes with the polish-makers' needs as a definite objective. Because of this specialization, use of Bareco wax products assures better polish characteristics; and it provides them economically.

Here is a partial listing of Bareco polish waxes and their specifications:

BARECO WAX	MELTING POINT °F.	PENETRATION	COLOR N.P.A.	ACID NUMBER	SAPON. NUMBER
Petrolite C-700	190 Min.	4 Max.	1½ Max.	Nil	Nil
B-Square 190 A	190/195	2-7	1½ Max.	Nil	Nil
Petrolite C-1035	195 Min.	2 Max.	1½ Max.	Nil	Nil
Petronauba D	185 Min.	5 Max.	6 Max.	20-28	50-60
Petrolite C-15	180 Min.	4-6	4-5	15-17	45-55
Petrolite C-23	180 Min.	4-6	4-5	20-25	55-65
Petrolite C-36	180 Min.	5-7	4-6	30-35	75-85
Petrolite PE 100	195-200	2-3	4-6	15-20	45-55
Petrolite R 50*	190-200	2 Max.	4½ Max.	40-50	65-80
Petrolite P 20	210-220	2 Max.	3 Max.	Nil	Nil

*R-50 is a microcrystalline wax—phenolic terpene resin blend. It is compatible with the waxes usually used in emulsion polishes, and can be used in all emulsion equipment. Its use saves the nuisance of separately storing and handling both resin and wax.

SALES OFFICES:
NEW YORK, 150 East 42nd Street
PHILADELPHIA, 121 S. Broad Street
CHICAGO, 332 S. Michigan Avenue

BARECO WAX COMPANY
A DIVISION OF PETROLITE CORPORATION
BOX 390, KILGORE, TEXAS
BOX 2009, TULSA, OKLAHOMA

R 5618

FLOOR WAXES (GERMICIDAL) (Contd.)

Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Trio Chemical Works, Inc., 341 Scholes St., Brooklyn

WAXES, FLOOR (Insecticidal)

Buckingham Wax Co., 51-03 Van Dam St., Long Island City, N. Y.
Chemical Service Co. of Baltimore, Howard & West Sts., Baltimore
Franklin Research Co., 5124 Lancaster Ave., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore
Hysan Prods. Co., 936 W. 38th Pl., Chicago
New Jersey Chem. Co., 56 Park Ave., Lyndhurst, N. J.
Rex-Cleanwall Corp., 238 S. Murphy Ave., Brazil, Ind.
Windsor Wax Co., 611 Newark St., Hoboken, N. J.

WAXES, Microcrystalline (Emulsifiable)

Aerogon Chemical Industries, 240 Broadway, N. Y. C.
Bareco Wax Co., Div. Petrolite Corp., Box 2009, Tulsa, Okla.
International Wax Refining Corp., Valley Stream, N. Y.
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Moore & Munger Co., 33 Rector St., N. Y. C.
Pennotex Oil Corp., 29 Broadway, N. Y.
Warwick Wax Co., 10-10 44th Ave., L. I. C., N. Y.
Wax Corp. of America, 21-29 Dunham Pl., Bklyn.

WAXES, (Compounded)

Aerogon Chemical Industries, 240 Broadway, N. Y. C.
Allied Asphalt & Mineral Corp., 217 Broadway, N. Y.
M. Argueso & Co., 442 Waverly Ave., Mamaroneck, N. Y.
Atlantic Refining Co., 260 S. Broad St., Phila.
Atlas Powder Co., Wilmington, Del.
Bakelite Corp., 30 E. 42nd St., N. Y.
Balfour, Guthrie & Co., 67 Wall St., N. Y.
Bareco Wax Co., Div. Petrolite Corp., Box 2009, Tulsa, Okla.
Candy & Co., 2515 W. 35th St., Chicago 38
Carlisle Chemical Works, Reading, O.
Cato Chemical Co., Elmhurst, Ill.
Cochrane Chemical Co., 151 Main St., Matawan, N. J.
Commerce Oil Corp., Warren, Pa.
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Wm. Diehl & Co., 114 E. 56th St., N. Y.
Glyco Products Co., 350 5th Ave., N. Y.
Industrial Raw Materials Co., 575 Madison Ave., N. Y. 22
International Wax Ref. Co., Valley Stream, N. Y.
Mercantile Wax Div., Mercantile Metal & Ore Corp., 595 Madison Ave., N. Y.
Koster-Keunen, Sayville, N. Y.
Moore & Munger, 33 Rector St., N. Y.
Norco Prods. Co., E. Ontario & Bath Sts., Phila. 34
Petroleum Specialties, Inc., 205 E. 42nd St., N. Y. 17
Pennotex Oil Corp., 29 Broadway, N. Y.
River Plate Corp., 573 Ferry St., Newark 5, N. J.
Frank B. Ross Co., 6-10 Ash St., Jersey City, N. J.
Wm. H. Scheel, Inc., 38 Franklin St., Bklyn. 22
Semet-Solvay Petrochemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
Shanco Plastics & Chemicals, Tonawanda, N. Y.
Shell Oil Co., 50 W. 50th St., N. Y. 20
Sherwood Refining Co., Englewood, N. J.
Smith & Nichols, Inc., 620 Central Ave., Carlstadt, N. J.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y.
F. W. Steadman Co., 59 Pearl St., N. Y.
Strahl & Pitsch, 141 Front St., N. Y.
Strohmeyer & Arpe Co., 139 Franklin St., N. Y. 13
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Van Dyk & Co., Belleville, N. J.
Warwick Wax Co., subsidiary Sun Chem. Corp., 10-10 44th Ave., L. I. C. 1, N. Y.
Wax Corp. of America, 21-29 Dunham Pl., Bklyn.
G. S. Ziegler & Co., Great Neck, N. Y.

WAXES, Polyethylene

Eastman Chemical Products, Inc., Kingsport, Tenn.
Semet-Solvay Petrochemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.

WAXES, Petroleum (emulsifiable)

Aerogon Chemical Industries, 240 Broadway, N. Y. C.
Atlantic Refining Co., 260 S. Broad St., Phila.

WAXES, PETROLEUM (EMULSIFIABLE) (Contd.)

Bareco Wax Co., Div., Petrolite Corp., Box 2009, Tulsa, Okla.
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Dura Commodities Corp., 20 Vesey St., N. Y. 7
Industrial Raw Materials Co., 575 Madison Ave., N. Y.
International Wax Refining Corp., Valley Stream, N. Y.
Mercantile Wax Div., Mercantile Metal & Ore Corp., 595 Madison Ave., N. Y. 22
Pennotex Oil Corp., 29 Broadway, N. Y.
Smith & Nichols, Inc., 620 Central Ave., Carlstadt, N. J.
Warwick Wax Co., 10-10 44th Ave., Long Island City, N. Y.
Wax Corp. of America, 21-29 Dunham Pl., Bklyn. 11

WAXES, SYNTHETIC

M. Arqueso & Co., 441 Waverly Ave., Mamaroneck, N. Y.
Baker Castor Oil Co., 120 Broadway, N. Y. 5
Balfour, Guthrie & Co., 67 Wall St., N. Y.
Bareco Wax Co., Div. Petrolite Corp., Box 2009, Tulsa, Okla.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y.
Carlisle Chem. Wks., Reading, O.
Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Dow Chem. Co., Midland, Mich.
Dura Commodities Corp., 20 Vesey St., N. Y.
Eastman Chem. Prods., Inc., Kingsport, Tenn.
Emulsol Chem. Corp., 75 E. Wacker Dr., Chicago
Geigy Industrial Chemicals, Ardsley, N. Y.
Glyco Prods. Co., 350 5th Ave., N. Y.
International Wax Refining Co., Valley Stream, N. Y.
Mercantile Wax Div., Mercantile Metal & Ore Corp., 595 Madison Ave., N. Y. 22
Monsanto Chem. Co., St. Louis 4
Moore & Munger, 33 Rector St., N. Y.
Nopco Chem. Co., 57 Weierich St., Harrison, N. J.
Pennotex Oil Corp., 29 Broadway, N. Y.
William H. Scheel, Inc., 38 Franklin St., Bklyn.
Smith & Nicols, Inc., 620 Central Ave., Carlstadt, N. J.
Semet Solvay Petrochemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
F. W. Steadman Co., 59 Pearl St., N. Y.
Wax Corp. of America, 21-29 Dunham Pl., Bklyn.
Wax & Rosin Prods., 42 Broadway, N. Y. 4
G. S. Ziegler & Co., New Market, N. J.

WEED KILLERS (2,4-D, Chloro IPC, etc.)

Atlantic Refining Co., 260 S. Broad St., Phila.
Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Carbide & Carbon Chems. Co., 30 E. 42nd St., N. Y. 17
Chem. Insecticide Corp., 129 Montague St., Bklyn. 1
Chem. Service of Balto., Howard & West Sts., Balto.
Chipman Chem. Co., Bound Brook, N. J.
Columbia-Southern Chem. Corp., Gateway, Pittsburgh
Crystal Soap & Chem. Co., 6300 State Rd., Philadelphia
Diamond Alkali Co., Union Commerce Bldg., Cleveland
Douglas Chem. Co., 620 E. 16th Ave., North Kansas City, Mo.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington, Del.
Eagle Soap Co., Huntington, Ind.
Fairfield Chem. Div., 441 Lexington, Ave., N. Y.
Fuld Bros., 702 S. Wolfe St., Baltimore
Geigy Agric. Chems., Ardsley, N. Y.
General Chem. Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
James Good Co., 2107 Susquehanna Ave., Phila.
B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland
Hysan Prods. Co., 936 W. 38th Pl., Chicago 9
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
McLaughlin, Gormley, King Co., 1715 5th St., S.E., Minneapolis
Michigan Chemical Corp., St. Louis, Mich.
Monsanto Chemical Co., St. Louis
Penn Salt Mfg. Co., 3 Penn Center Plaza, Phila.
Pittsburgh Coke & Chem. Co., Grant Bldg., Pittsburgh
John Powell & Co., Div. Olin Mathieson Chem. Corp., Baltimore
Private Brands, Inc., 300 S. 3rd St., Kansas City, Kan.
Residex Corp., Foot of Centre St., Newark, N. J.
Rohm & Haas Co., Washington Sq., Phila. 5
Shell Chem. Corp., 50 W. 50th St., N. Y. 20
Strohmeyer & Arpe Co., 139 Franklin St., N. Y. 13
Thompson-Hayward Chem. Co., 2915 Southwest Blvd., Kansas City 8, Mo.
U. S. Borax & Chem. Corp., 100 Park Ave., N. Y.
U. S. Sanitary Specialties Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis
Wyandotte Chemicals Corp., Michigan Alkali Div., Wyandotte, Mich.

WEIGHING EQUIPMENT (Automatic)

Arenco Mach. Co., 25 W. 43rd St., N. Y. 36
Automatic Scale Co., Joliet, Ill.
Battle Creek Packaging Machs., Battle Creek, Mich.
Consolidated Packaging Mchy. Corp., 1400 West Ave., Buffalo, N. Y.
Exact Weight Scale Co., 944 5th Ave., Columbus 8, O.
J. L. Ferguson Co., Joliet, Ill.
B. F. Gump Co., 1338 S. Cicero Ave., Chicago
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)
Meccaniche Moderne, Corso Sempione 51, Busto Arsizio, Italy
Pneumatic Scale Corp., Quincy 71, Mass.
Rapids Machy. Co., Marion, Iowa
Read Standard Corp., York, Pa.
F. J. Stokes Machine Co., Tabor Rd., Phila., Pa.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Triangle Package Machinery Co., 6643 W. Diversey Ave., Chicago
Vol-U-Meter Co., 710 Ohio St., Buffalo, N. Y.
Weigh Right Automatic Scale Co., 404 Grant Ave., Joliet, Ill.

WETTING AGENTS (see Surface Active Agents)

WHALE OIL (see also Brokers and Dealers)

Archer-Daniels-Midland Co., Minneapolis, Minn.
F. A. Marsily & Co., 15 Whitehall St., N. Y.
Murray Oil Prods. Co., 21 West St., N. Y.
J. H. Redding Co., 17 Battery Pl., N. Y.
Robeco Chemicals, Inc., 25 E. 26th St., N. Y.
Werner G. Smith, Inc., 1730 Train Ave., Cleveland
Swift & Co., Industrial Oil Dept., Hammond, Ind.
Welch, Holme & Clark Co., 439 West St., N. Y.
Wilbur-Ellis Co., 17 Battery Pl., N. Y.

WHALE OIL SOAPS

Chicago Sanitary Prods. Co., 3100 S. Throop St., Chicago
Crystal Soap & Chem. Co., 6300 State Rd., Phila.
James Good, Inc., 2107 Susquehanna Ave., Phila.
R. M. Hollingshead Corp., Camden, N. J.
Nopco Chemical Co., 57 Weierich St., Harrison, N. J.
North Coast Chem. & Soap Works, Seattle, Wash.
Peck's Prods. Co., 610 E. Clarence Ave., St. Louis
Schaeffer Mfg. Co., 102 Barton St., St. Louis
Silmo Chemical Co., Vineland, N. J.
Standard Soap Co., Div. Concord Chem. Co., 205 S. 2nd St., Camden, N. J.
Welsh, Holme & Clark Co., 439 West St., N. Y.

WHITE ARSENIC

Baird & McGuire, Inc., Holbrook, Mass.
California Spray-Chemical Corp., Richmond, Calif.
Chem. Insecticide Corp., 129 Montague St., Bklyn.
Chipman Chemical Co., Bound Brook, N. J.
Crystal Soap & Chemical Co., 6300 State Rd., Phila.
Fuld Bros., 702 S. Wolfe St., Baltimore 31, Md.
General Chemical Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
James Good Co., 2104 Susquehanna Ave., Phila.
Kemiko Mfg. Co., 500 Chancellor Ave. Irvington, N. J.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
McLaughlin Gormley King Co., Minneapolis
Thompson-Hayward Chemical Co., 2015 Southwest Blvd., Kansas City, Mo.
U. S. Sanitary Spec. Corp., 1001 S. California Blvd., Chicago 12
James Varley & Sons, 1200 Switzer Ave., St. Louis

WHITE MINERAL OILS

Amoco Chems. Corp., 912 S. Michigan Ave., Chicago
Atlantic Refining Co., 260 S. Broad St., Philadelphia
Esso Standard Oil Co., 15 W. 51st St., N. Y. 19
Pennsylvania Refining Co., Butler, Pa.
Petroleum Specialties, Inc., 205 E. 42nd St., N. Y. 17
Sherwood Refining Co., Englewood, N. J.
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
L. Sonneborn Sons, 300 4th Ave., N. Y. 10
Standard Oil Co. (Calif.), 225 Bush St., San Francisco
F. W. Steadman Co., 59 Pearl St., N. Y.
Welch, Holme & Clark Co., 439 West St., N. Y.

WHITENING AGENTS (see Optical Bleaches)

WINDSHIELD CLEANERS (see Glass and Windshield Cleaners)

WINTERGREEN OIL (see Essential Oils)

WOOD FLOUR

Becker Moore & Co., N. Tonawanda, N. Y.
Frank Miller & Sons, 2250 W. 58th St., Chicago
Natl. Sawdust Co., 69 N. 6th St., Bklyn.
Tennessee Prods. & Chem. Corp., American National Bank Bldg., Nashville, Tenn.
Wilner Wood Products Co., Norway, Me.
Witco Chemical Co., 122 E. 42nd St., N. Y.
Wood Flour, Inc., Winchester, N. H.

WOOD OIL (see Tung Oil)

WOOD PRESERVATIVES

Baird & McGuire, Inc., Holbrook, Mass.
Barrett Div., Allied Chem. & Dye Corp., 40 Rector St., N. Y.
California Spray-Chemical Corp., Richmond, Calif.
Cliffs-Dow Chemical Co., Midland, Mich.
Cuprinol Div.,—Darworth, Inc., Simsbury, Conn.
Dow Chem. Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Wilmington
Hercules Powder Co., 961 Market St., Wilmington, Dela.
Koppers Co., Chamber of Commerce Bldg., Pittsburgh
Monsanto Chemical Co., St. Louis
Neville Chemical Co., Pittsburgh
Olin Mathieson Chem. Corp., Baltimore
Oronite Chemical Co., 200 Bush St., San Francisco
Reilly Tar & Chem. Corp., Indianapolis 5, Ind.
U. S. Steel Corp., Pittsburgh 30
Tenn. Prod. & Chem. Corp., Nashville 3, Tenn.
R. T. Vanderbilt Co., 230 Park Ave., N. Y. 17
Velsicol Corp., 330 E. Grand Ave., Chicago

WRAPPING MACHINERY

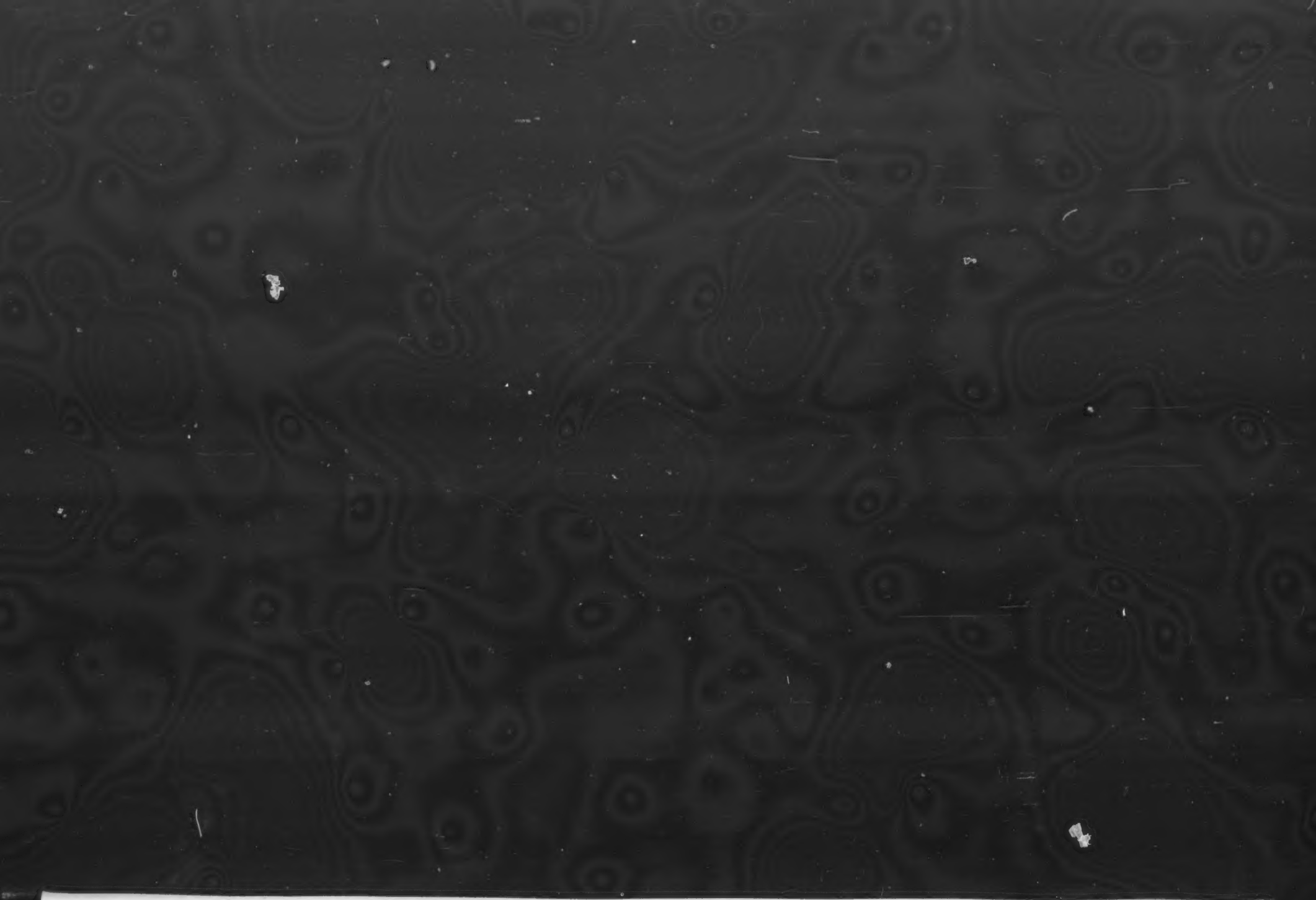
Battle Creek Packing Machines, Inc., Battle Creek, Mich.
J. L. Ferguson Co., Joliet, Ill.
Hudson-Sharp Machine Co., Green Bay, Wisc.
J. M. Lehmann Co., 566 New York Ave., Lyndhurst, N. J.
Loeb Equipment Supply Co., 810 W. Superior St., Chicago (Used)
Miller Wrapping & Sealing Mach. Co., 16 S. Clinton St., Chicago
Newman Tallow & Soap Mach. Co., 1051 W. 35th St., Chicago (Used)
Package Machinery Co., East Longmeadow, Mass.
Pneumatic Scale Corp., North Quincy, Mass.
F. B. Redington Co., 3000 St. Charles Rd., Bellwood, Ill.
Stokes & Smith Co., 4915 Summerdale Ave., Phila.
Triangle Package Mach. Co., 6643 W. Diversey Ave., Chicago 35
Van Buren Wrapping Machy. Corp., 750 Grand St., Bklyn. 11
Wrap-King Corp., 100 Berkshire St., Holyoke, Mass.

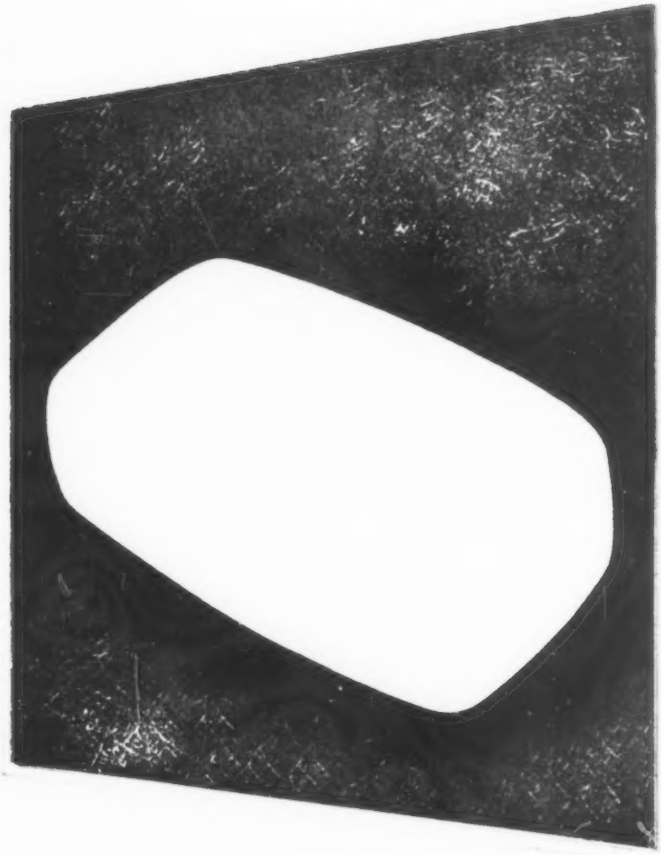
ZINC NAPHTHENATE

Advance Solvents & Chem. Corp., 245 5th Ave., N. Y.
Cuprinol Div.—Darworth, Inc., Simsbury, Conn.
General Petroleum Corp. of Calif., 108 W. 2nd St., Los Angeles
Harshaw Chemical Co., 1945 E. 97th St., Cleveland
Koppers Co. Chamber of Commerce Bldg., Pittsburgh 19
Naftone, Inc., 515 Madison Ave., N. Y. 22
Oronite Chemical Co., 200 Bush St., San Francisco
Socony Mobil Oil Co., 150 E. 42nd St., N. Y. 17
Texas Solvents & Chem. Co., 8501 Market St., Houston

ZINC OXIDE

American Cyanamid Co., 30 Rockefeller Plaza, N. Y.
Anaconda Sales Co., E. Chicago, Ind.
J. T. Baker Chem. Co., Phillipsburg, N. J.
Chas. B. Chrystal Co., 53 Park Pl., N. Y.
Eagle-Picher Co., American Bldg., Cincinnati 1
Harshaw Chem. Co., 1945 E. 97th St., Cleveland 6
Mallinckrodt Chemical Works, St. Louis, Mo.
Merck & Co., Rahway, N. J.
Monsanto Chemical Co., St. Louis
New Jersey Zinc Co., 160 Front St., N. Y.
Robeco Chems., Inc., 23 E. 26th St., N. Y.
Rohm & Haas Co., 222 W. Washington Sq., Phila.
Royce Chem. Co., Carlton Hill, N. J.
Whittaker, Clark & Daniels, 260 W. Broadway, N. Y.





Fragrance...

TOUCHSTONE OF DISTINCTION

Fragrance consistently tells *your* story of distinction throughout the entire use life of the soaps you sell.

Be sure it tells an appealing story.

For knowing assistance in the development of soap perfumes of distinction consult van Ameringen-Haebler, Inc.

van Ameringen-Haebler, Inc.

521 West 57th Street, New York 19, New York

AROMATIC ESSENTIALS

for creating perfumes of distinction

With more and more soap manufacturers acclaiming the importance of high quality, truly lovely and unique fragrances, van Ameringen-Haebler, Inc. is constantly revising its list of aromatic essentials to include the latest contributions of aromatic chemical research. Many of these materials offer new notes and nuances of unusual interest to the creative soap perfumer.

These are but a few of the many aromatic materials produced for the soap making industry. They can be relied upon for purity and strict uniformity of odor. We call to your attention the listings in bold face type. These are either unusual grades of the more well-known materials or recent research discoveries, embodying new and interesting odor characteristics, which we believe merit special interest.

We invite your inquiries for samples and current quotations.

van Ameringen-Haebler, Inc.

521 West 57th Street, New York 19, New York

Alcohol D.C.A.

Aldehyde Myrac—Lasting, lemon-floral with a sweet background.

Aldehyde Myrmac—An Orange Aldehyde type, strong and persistent.

Ambrain—The concentrated heart of Labdanum, without waxes or gum.

Amyl Cinnamic Aldehyde (Flomine Coeur)

Arras Aldehyde—Lively, tart, orange-neroli odor, strong and lasting in soap.

Benzoin Synthetic #63—An excellent replacement for natural Benzoin.

Benzyl Cinnamate

Benzyl Salicylate

Bicyclohexanone P—Floral, woody, sweet Wood-Violet note.

Cedarwood Oil White

Cedrenol—Sweet, woody, rich—very lasting and stable in soap.

Cedrenyl Acetate—Lively, balsamic, sweet and lasting.

Cedrol

Cedrone

Citral Dimethyl Acetal

Citronellol Coeur

Citronellyl Acetate

Citronellyl Formate

Citronellyl Methyl Acetal

Citronellyl Propionate

Cycloisoeugenal

Dimethyl Benzyl Carbinol—Flowery, valuable in floral bouquets, especially lilac.

Dimethyl Benzyl Carbinyl Acetate—Rich, Roseotto note, very floral, powerful and sweet in soap.

Dimethyl Octanol

Dimethyl Octanyl Acetate

Dimethyl Phenyl Ethyl Carbinol

Elvinol—Suggests Linalool and Dimethyl Benzyl Carbinol. Sweet floral odor.

Elvinyl Acetate—Bergamot-like. More powerful and lasting. Sweet and refreshing.

Ethyl Citronellol

Eugenyl Phenyl Acetate

Fructone—Remarkably powerful fruit character for soap.

Galbanum Coeur

Gelsone—Refreshing and long lasting Jasmine note.

Geralex

Geraniol Absolute

Geraniol C.D.

Geraniol Coeur

Geranoxide—Rosy, good in soap.

Geranoxy Acetaldehyde

Geranyl Acetate Coeur

Geranyl Propionate

Girella—Inexpensive fresh spicy character suitable for use directly in soap products.

Hyacinth Body—Very powerful nasturtium-hyacinth note.

Hyacinth Body #3

Hydratropic Acetate

Hydratropic Alcohol—Very flowery and lasting in soap.

Hydratropic Aldehyde

Hydratropic Aldehyde Dimethyl Acetal

Ionone Extra C-1

Ionone Alpha Methyl

Ionone Gamma Methyl #218

Ionone Methyl C-60

Ionone Methyl Gamma C-60

Irene Methyl Gamma

Isobutyl Furyl Propionate

Iso Jasmone—Very powerful Jasmine body—very lasting in soap.

Jessemal—Rich Jasmine note, excellent in soap.

Labdanum Resin Absolute

Lavender Ketone—Yields a high lavendacious note. Particularly suited for use in white soaps.

Lilanthol—Powerful, flowery, muguet. Very stable.

Linalool B Extra

Linalool Coeur

Linalyl Acetate 90-92%

Methyl Cinnamate

Methyl Diphenyl Ether—A Rosy, Leafy odor. Lasts well in soap.

Muguol—Particularly suited for Muguet and floral compositions.

Myrrh Coeur (Resin Absolute)

Nerol

Olibanum Coeur (Resin Absolute)

Opoponax Resin Absolute

Patchone—Woody, Patchouli note, exceptionally suited for soap work.

Petitgrain Absolute

Phenyl Ethyl Acetate

Phenyl Ethyl Alcohol

Phenyl Ethyl Benzoate

Phenyl Ethyl Cinnamate

Phenyl Ethyl Propionate

Pseudo Linalyl Acetate—Refreshing Bergamot and Lavender-like note; plus a slight Nutmeg suggestion. Our tests with Pseudo Linalyl Acetate in soap have shown that it is much more stable, more powerful and more flowery than Linalyl Acetate.

Pseudo Linalyl Acetate Technical—Same as the above product with a wider cut of fractions.

Styrax Clarified Extra

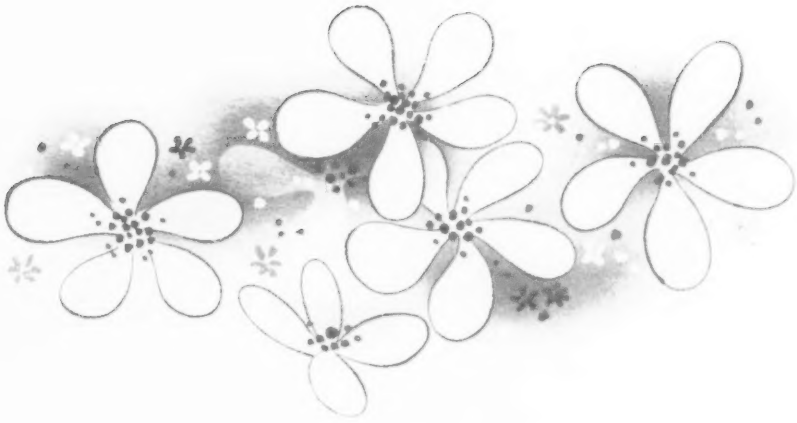
Syringial—Green, leafy-note with a "melon" suggestion.

Talia—A new chemical possessing a green, leafy, powerful, violet-like character.

Tetrahydro Muguol—Similar to Muguol (see above), except that this article is predominately more like Linalool.

Trans Decahydro Betanaphthol—Useful in Rose and Jasmine floral type odors. It has the faculty of diffusing other odors.

Vertenex—Sweet, rich and woody. It blends very well with any Ionone and enriches the odor quality.



Finished Soap Perfumes

For those soap makers who prefer to use finished perfume oils, we offer the art and experience of our staff of skilled perfumers. Soap perfumery is a highly specialized field, requiring a complete technical knowledge of the intricacies of soap making and its chemistry, plus, of course, the creative flair of the true perfume artist. The van Ameringen-Haebler perfume chemists are ably qualified in these respects, and, in addition, are wise in the ways of marketing... thus they can help you in the selection of the right type of perfume for your particular product.

van Ameringen-Haebler, Inc.

521 West 57th Street, New York 19, New York

Reference Section

HARDNESS AND pH VALUES OF WATER IN THE U.S.*

Aggressive Water Areas

pH Value — Hardness As $CaCO_3$ (e.g. 7.0 / 100)

pH Values:- Below 7 acid
7 neutral
Above 7 alkaline

Hardness:- Below 60 ppm. aggressive water
61-120 " soft
121-180 " hard
Above 180 " very hard

* Reprinted by special permission of the American Iron & Steel Institute, 350 5th Ave., New York

COCKROACH SPRAY TEST METHOD

Official Method of the Chemical Specialties Manufacturers Association For Evaluating Cockroach Sprays

THE National Association of Insecticide & Disinfectant Manufacturers* sponsored a fellowship at the Ohio State University from 1937 to 1942 for the study of testing methods suitable for evaluating liquid household insecticides against crawling insects. This project was directed by Prof. F. L. Campbell and employed as investigators at various times were E. N. Woodbury, C. S. Barnhart, E. H. Glass, and J. M. Hutsel. Results of these studies have been summarized in various published articles[1,2,3], and much valuable information was obtained on both rearing and test methods. In spite of the fact that a number of test methods were devised and employed on both bedbugs and cockroaches, none of the methods received widespread official recognition. In 1943 Henderson reported on a liquid cockroach spray testing method being employed by the Production and Marketing Administration of the U.S. Department of Agriculture. From 1943 to 1946 crawling insect test method studies were conducted with CSMA (then NAIDM) support by F. O. Hazard, Wilmington College, Wilmington, Ohio, with special emphasis on the study of the Henderson method. Both liquid and powder methods for cockroach testing have been published by Hazard[5,6], and L. J. Bottimer[7] on the current method used by the Insecticide Division Livestock Branch, Production and Marketing Administration, United States Department of Agriculture, for the testing of liquid cockroach sprays.

The method here described is a composite of the Bottimer and Hazard method with certain modifications developed through cooperative tests between various laboratories of the CSMA (then NAIDM), and is thought to offer a satisfactory means of determining the relative efficiency of contact insecticides in oils as cockroach sprays. As a biological test it is subject to variations that accompany the reaction of living organisms and should be employed under the supervision of a person familiar with the biological testing of insecticides. In order to measure with reasonable tolerance the relative effectiveness of different insecticides, the test is run in conjunction with the Official Test Insecticide, which is designated as the basis of comparison.

II. APPARATUS

A—Reference Insecticide. The reference insecticide shall be the current Official Test Insecticide (100 mg. pyrethrins/100 ml. de-odorized insecticide base oil) prepared by the Chemical Specialties Manufacturers Association, Inc. every two years. The OTI must not be diluted or changed in any manner.

B—Test Insect. The test insects shall be healthy, normal undeformed adult males of the German cockroach *Blattella germanica* (Linn.). Recently emerged adult males, e.g., whose pigmentation is not dark, shall not be used for testing purposes. It is recommended that the adult stage shall have been attained at least three days prior to testing.

C—Rearing Room. This room may be of any convenient size, constructed so as to be free from strong drafts and maintained at a temperature of 75 to 85°F. and a relative humidity of 30 to 50 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odor.

D—Testing Room. This room may be of any convenient size permitting adequate space for the operator to handle the test efficiently. While tests are being conducted this room shall be maintained at a temperature of 78 to 82°F. It is suggested that relative humidity be held between 30 and 50 per cent.

E—Spray Chamber. The spray chamber shall be a box-like structure of solid material measuring 18 inches wide, 18 inches long and 25 to 30 inches in height. The floor of the chamber shall be covered with ½ inch mesh wire hardware cloth. Suitable guides shall be fastened to the chamber floor to permit the centering of the treatment container directly beneath the nozzle of the spray gun. The top of the chamber shall be open and fitted with suitable braces and mounting for the spray atomizer. The front wall of the chamber may be in the form of a sliding door permitting convenient access to the interior of the chamber. The chamber shall rest on a stand placing it at the proper height for convenient operation of the test.

F—Atomizer. The atomizer to be employed is the DeVilbiss Special No. 5004, which is the same atomizer specified for the Peet-Grady Test. This atomizer shall be operated with air free of oil, dust particles, or condensed moisture, and maintained at a constant pressure of 6.0 plus or minus 0.5 lbs. per sq. in. The atomizer when operated at a pressure of 12.5 plus or minus 0.5 lbs. per sq. in. shall deliver 12 ml. of OTI in 24 seconds (tolerance plus or minus 1 second) and this should be checked frequently. The atomizer shall be firmly mounted in a manner to permit adjustment and shall be arranged with the barrel in a verticle position and centered with the nozzle tip 28 inches above the bottom of the treatment container which rests on the chamber floor. The intake tube of the atomizer shall be bent at a right angle, adjusted with the open end pointing toward the floor and of sufficient length to permit the spray vials to be held in place without interfering with the spray cone.

G—Treatment Container. The treatment container shall be a screen bottomed container 3½ inches in diameter with 3 inch side walls. Sixteen mesh wire screen shall be soldered in place to form the bottom of the container in such a manner that the entire bottom is completely open. Ordinary tin cups of the proper dimensions with handles removed and the solid bottoms replaced by wire screening have been found useful as test containers.

H—Recovery Dishes. Glass crystallizing dishes measuring 125 millimeters in diameter and 65 millimeters high shall be employed as recovery cages. The bottoms of the recovery dishes shall not be covered with filter paper or other material. Sixteen mesh wire screen covers may be employed as recovery dish covers during the 48-hour holding period following spray application in order to prevent the entry of wild cockroaches.

III. PROCEDURE

A—Rearing of Test Insects. Any suitable method permitting the production of large numbers of the test insect under controlled conditions of temperature and humidity as previously described may be employed. The rearing technique described by Woodbury and Barnhart[2], which makes use of a brood chamber containing adult females from which large number of first instar nymphs may be collected at frequent intervals, has been successfully used in a number of laboratories. All molded food, dead females and empty egg cases should be removed weekly. Wild cockroaches shall not be used and all test

*Known as the Chemical Specialties Manufacturers Association since 1950.

insects shall have been reared under uniform conditions.

B—Food. Until the time of testing, the cockroaches shall be provided at all times with food and water. The standard food shall be Dog Chow Checkers, manufactured by the Ralston Purina Co., St. Louis, Missouri, or equivalent.

C—Test Procedure. Adult male cockroaches shall be isolated in recovery dishes or other suitable containers from the cultures in groups of 20 by means of a suction device, by anesthetizing them with carbon dioxide gas or any other suitable method which does not injure them. In selecting the test insects every effort shall be made to obtain uniform test groups.

Air shall pass continuously through the atomizer at the prescribed pressure during the entire series of tests. Prior to application of test samples, the gun shall be thoroughly cleaned with a suitable solvent such as acetone and shall be primed with the spray solution to be applied. Spraying of individual test groups shall be effected by bringing an accurately measured amount of the test spray contained in a vial in contact with the atomizer intake tube.

Immediately before spray application the cockroaches shall be transferred to screen-bottomed treatment containers. These containers shall be free from all traces of insecticides and shall have the entire inner wall surface suitably oiled or greased to prevent the escape of the insects and to confine them to the container floor. The treatment container shall be centered on the spray chamber floor directly below the atomizer nozzle and the spray applied as described above. Prior to spray application the treatment container shall be agitated sufficiently to distribute the test insects uniformly over the container floor. The treatment container shall be removed from the spray chamber 30 seconds after the start of spray application. The test insect shall be immediately transferred from the treatment container to the recovery dish. Treated cockroaches shall be held under rearing room conditions throughout the 48-hour observation period and shall receive neither food nor water.

In evaluating a test sample a minimum of 10 individual test groups shall be run for the test spray in conjunction with 10 test groups receiving the OTI. An equal number of replicates shall be made for members of any given test series on a given test day. The dosage employed shall be the same throughout a given series of tests and of such magnitude as to result in an average of 70 per cent to 90 per cent of the insects dead and moribund at 48 hours with the OTI. Cooperative tests among CSMA laboratories have shown the required dosage to be 0.5 to 0.9 ml.

D—Assembly and Evaluation of Data. Evaluation of test samples shall be made on the basis of observations taken 48 hours after spray application, at which time the percentage of test insects normal, moribund, and dead shall be determined. Any insect showing signs of life but incapable of locomotion shall be considered as moribund. Similar records taken at 24 hours or at intervals longer than 48 hours may be of interest in critical studies. It is recommended that if the test insects are to be held under observation longer than 48 hours they be furnished food and water at the end of the initial 48 hour observation period. Insects that withstand insecticide treatments shall be destroyed and in no case returned to the stock cultures or employed in further tests. In cases of semi-concentrate sprays or sprays of especially high toxicity to cockroaches they shall be tested by the above method as recommended by the manufacturer. For example, if a manufacturer claims his product to be three times as effective as the standard (OTI), the spray shall be diluted at the rate of one part of the spray with two parts deodorized insecticide base oil by volume prior to testing. The basis of comparison shall be the average percentage dead and moribund of the test sample as compared with that of the OTI. In reporting the test results the test sample shall be reported as "meeting the standard" if its average percentage dead and moribund determination at 48 hours is equal to, greater than, or within 5 percentage points less than that of the OTI employed in conjunction with it. In no case shall actual numerical values be reported officially or any letter grade designations be assigned to the test samples as a measurement of their effectiveness against cockroaches. The accompanying table records the results of a typical series.

IV. CONDITIONS FOR OFFICIAL EVALUATION

A—The test shall be conducted in accordance with the procedure previously described.

B—Twenty test groups of insects, numbering 20 cockroaches each (10 test sample, 10 OTI) shall be employed in making official evaluation.

C—The dosage shall be constant throughout a given series of tests and of such magnitude as to give an average of from 70 to 90 per cent of the OTI treated cockroaches dead and moribund 48 hours after spray application.

D—The toxicity of the unknown sample shall be reported as meeting the standard if its average percentage dead and moribund determination at 48 hours is equal to, greater than, or within 5 percentage points less than that of the OTI run in conjunction with it. In cases of semi-concentrate sprays or sprays of especially high toxicity to cockroaches, they shall be tested as recommended by the manufacturer. In no case shall numerical values be reported or any letter grade designations be assigned to the test samples as a measurement of their toxicity to cockroaches.

References

(1) Woodbury, E. N., 1938—Test Methods on Roaches—Soap and Sanitary Chemicals, Vol. 14, No. 8, pp. 86, 87, 88, 89, 90, 107, 109.

(2) Woodbury, E. N., and Barnhart, C. S., 1939—Tests on Crawling Insects—Soap and Sanitary Chemicals, Vol. 15, No. 9, pp. 93, 95, 97, 99, 101, 103, 105, 107, 113.

(3) Campbell, F. L.; Barnhart, C. S. and Hutzel, J. M., 1941 Tests on Crawling Insects — Soap and Sanitary Chemicals, Vol. 17, No. 7, pp. 105, 106, 107, 109, 111, 113, 115; Vol. 17, No. 8, pp. 105, 107, 109, 111, 113, 115, 121.

(4) Henderson, L. S., 1943 — A Roach Testing Method — Unpublished report, U.S.D.A., Insecticide Testing Laboratory, Beltsville, Md.

(5) Hazard, F. O., 1943 — Liquid and Powdered Methods for Roach Testing—Soap and Sanitary Chemicals, Vol. 21, No. 6, pp. 126, 127.

(6) Hazard, F. O., 1945—Modifications of the Liquid Roach Method—Soap and Sanitary Chemicals, Vol. 21, No. 12, pp. 159, 167.

(7) Bottimer, L. J., 1945 — Roach rearing and Testing — Soap and Sanitary Chemicals, Vol. 21, No. 12, pp. 151, 153, 155, 157, 159.

EXAMPLE OF TEST DATA

0.7 ml. Dosage by CSMA Roach Test Method

Per Cent Dead and Moribund 48 Hours

Test	*Date*	*OTI*	*Spray A*	*Spray B*	*Spray C*
1	5/13/46	90	85	100	100
2	5/13/46	85	75	45	90
3	5/13/46	30	50	55	100
4	5/13/46	65	70	40	100
5	5/13/46	100	85	65	100
6	5/13/46	75	75	85	95
7	5/16/46	80	85	35	100
8	5/16/46	65	70	65	100
9	5/16/46	95	90	30	95
10	5/16/46	80	45	60	100
Average		76.5	73.0	58.0	98.0

Reported as follows: Spray A—Meets Standard; Spray B—Does not meet Standard; Spray C—Meets Standard.

THE PEET-GRADY METHOD

Official Method of the Chemical Specialties Manufacturers Association for Evaluating Liquid Household Insecticides, Latest Revision*

THE Peet-Grady Method was adopted as an official test in 1932, and has since been improved in certain details, all improvements have been officially accepted after thorough investigation by the CSMA Insecticide Scientific Committee. Inquiries regarding the method should be addressed to the chairman of this Committee. This method of test is a means of determining the relative efficiency of contact insecticides dissolved in fly spray base oils suitable for household and industrial use. The method does not apply to cattle sprays having viscosities materially higher than those of fly spray base oils. As a biological test it is subject to variations which accompany the reaction of living organisms and should be employed under the supervision of a person familiar with the biological testing of insecticides. In order to measure with reasonable tolerance the relative effectiveness of different insecticides, the test is designed to be used in conjunction with the "Official Test Insecticide" as the basis of comparison.

Two methods, or procedures, are permitted. The small group method is substantially the same as outlined at the time the test was adopted in 1932 while the large group method was adopted officially in 1938. Both methods are being used extensively, and if correctly employed, evaluation by either test may be expected to be in reasonable agreement.

II. APPARATUS

A. Reference Insecticide: The reference insecticide shall be the current Official Test Insecticide (OTI) prepared and sold by the CSMA, 110 E. 42nd Street, New York 17, New York. The OTI is carefully standardized by both biological and chemical analysis and it must not be diluted or changed in any manner.

B. Atomizer: The Special Atomizer No. 5004, constructed by the De Vilbiss Co., Toledo, O., must be used, preferably with the DeVilbiss No. 631 cut off. This atomizer shall be operated with air free of contaminants and maintained at a constant pressure of 12.5 ± 0.5 pounds per sq. in. measured by a gage of not more than 30 pounds capacity or a manometer. The atomizer shall deliver 12 ml. of OTI in 24 seconds (tolerance ± 1 second) and this should be checked frequently. Atomizers failing to meet this test should be repaired by the manufacturer or replaced.

C. Test Insect: The test insect shall be the adult house fly (*Musca domestica L.*) reared from a strain mixed under the supervision of the CSMA. Flies in test groups shall be not less than 3 nor more than 6 days old at the time of testing, and must meet the Conditions for Official Evaluation, Section IV.

D. Fly Cages: Cages of any convenient type may be used if they provide at least 1 cubic inch of space per fly and at least 2 sides and the top are screened. The floor of the cage preferably is detachable, to facilitate cleaning and inserting a paper floor covering. The cages are constructed of wood or other suitable material and fly wire screening, and are fitted with a sleeve opening, rubber membrane, or a door.

E. Rearing Room: This room may be of any convenient size constructed so as to be free from strong drafts, and maintained at a temperature of 82 ± 2 degrees Fahrenheit and relative humidity of 50 ± 5 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odors and gases from fermenting media.

F. Testing Room: This room may be of any convenient size capable of holding the standard Peet-Grady Chamber and permitting adequate additional space for the operator to handle the test efficiently. While conducting tests, this room shall be maintained at a temperature of 75 to 85 degrees Fahrenheit. It is suggested that relative humidity be held between 40 and 70 per cent. Since the exhaust fan of the chamber will move relatively large quantities of air, the temperature of the air entering this room should be approximately that specified above.

G. Peet-Grady Test Chamber: The Test Chamber shall be rigidly constructed of wood, metal, or other suitable material. The inner surface shall be smooth, impervious to the usual household type of insecticide, and as free from cracks, projections, ledges, etc., as possible. The chamber shall be a 6-ft. cube by internal measurements, with a tolerance of plus or minus 1 in. for any dimension. One wall shall contain a tight-fitting door large enough for a man to enter conveniently, with the interior side flush with the wall when closed. One or more of the walls, or the ceiling, shall contain an observation window, preferably on two opposite walls. Illumination is provided by means of a glass window in the ceiling, above which is placed an electric light of such intensity as to permit flies to be observed easily. An opening covered with 10 or 12-mesh wire screen shall be connected to an exhaust fan duct and the size and the location of this opening in relation to ventilation openings in the wall must be such that thorough ventilation of the chamber is obtained. Preferably, the exhaust opening should be 1 sq. ft. or larger and located in or near the ceiling. Air inlet openings may be ports approximately 6 x 6 in. in size, covered with screen on the inside and provided with tight fitting hinged covers on the outside. Four ports located near the 4 lower corners, or 8 ports located near both the 4 upper and 4 lower corners are satisfactory, but the ventilation ports should not be on the same level as the exhaust port. The entrance door may be used alone or in conjunction with the ventilation ports if a screen door is provided and thorough ventilation of the chamber is obtained. If the temperature of the air used to ventilate the chamber is lower than 80°F., heaters may be used to obtain the temperature of 82 ± 2°F. required during the test period. Such heaters must be removed before a test is started. Openings shall be provided for the introduction of the insecticide; these must be so constructed and so located that uniform distribution of the spray is effected without undue ventilation of the chamber. These openings may be round 1 in. holes located not less than 6 in. or more than 12 in. from the ceiling and 18 in. from the nearest corner on each wall, or a single hole may be provided in the center of each wall 6 to 12 inches from ceiling.

H. Exhaust Fan: An exhaust fan moving not less than 1,000 cu. ft. of air through the chamber per min. shall be used to ventilate the chamber after each test. It shall be arranged with adequate piping to exhaust the chamber vapors outside of the building.

I. Insecticide Paper: Unsized, nonglazed absorbent paper, such as brown kraft or gray bogus, shall be used to cover the chamber floor. Two overlapping sheets of 36-40 in. width or one sheet of 6 ft. width may be employed. No special weight is specified although 60-80 lb. gray bogus paper has been found excellent.

J. Apparatus for Picking Up Flies: Any convenient means of picking up

*Chemical Specialties Manufacturers Association, 110 E. 42 Street, New York, New York.

the paralyzed flies without injuring or appreciably disturbing them may be used. If a vacuum device is used, it must produce gentle suction, have a sufficiently large receptacle to prevent crowding of the flies, and it shall be cleaned after each test with the same materials used in cleaning the chamber.

III. PROCEDURE

A. Rearing and Handling Flies: In this procedure, eggs are transferred to medium suitable for the development of larvae, the pupae are collected from the medium and placed inside of cages, and the adult flies emerge and remain in these cages until the day of testing. A culture is defined as all adults resulting from the seeding of eggs collected at one time on a given date.

Larval medium: The preferred containers are cylindrical glass battery jars approximately 6 in. in diameter and 9 in. high. For one jar, mix 340 gm. (12 oz.) standard dry larval medium (1) with approximately 750 ml. of an aqueous suspension containing 15 gm. moist cake yeast and 10 cc. Diamalt, (2). Mix thoroughly until a loose, fluffy medium is obtained, transfer it to the battery jar without packing, cover with cloth and set in the insectary. The amount of suspension required for best rearing results will need be determined in each laboratory and it may be varied in order to prevent mold growth. It is suggested the medium be prepared in the late afternoon of the day before egg collection.

Eggs: Eggs are collected for a period not longer than 16 hours from food dishes or other oviposition media in cages containing mature flies not more than 8 days old. It is suggested that fresh oviposition medium be placed in fly cages in the late afternoon and eggs be collected early on the following morning. After collecting the eggs they must be measured and seeded without delay. Wash all the eggs together in tap water at room temperature and measure 2000 eggs as accurately as possible. This may be done by allowing the eggs to settle in a calibrated pipette or graduate (0.1 ml. settled eggs contains about 700) or the eggs can be filtered and measured in calibrated pits or cells. Use 10 ml. tap water to measure and to scatter the eggs in a pit or trench ½ in. deep and located in the center of the jar of larval medium. Cover the eggs with loose medium, replace the cloth covers on the jars, and set jars in the insectary so that at least 1.5 in. separates each jar to permit free air circulation. The maximum temperature in the jar (about 3 days later) must not exceed 130°F. Under normal conditions more than 85 per cent of the eggs should hatch within 36 hours of the time they are laid.

Pupae: Mature larvae migrate to the top portion of the medium and normally all larvae will have pupated by the seventh day after seeding eggs. When this occurs, the portion of medium containing pupae may be loosened, poured into a shallow tray, and air dried at room temperature. An electric fan may be used to hasten drying. Pupae may be separated from the dry medium by sprinkling the pupae-medium mixture on an inclined tray or chute set in front of an air blast such as that from an electric fan. The pupae must be handled gently and as little as possible in order to avoid injury. Any method that permits at least 95 per cent of flies to emerge is considered satisfactory.

All of the pupae maturing on a given day are combined into one lot, mixed, and measured into test units. Each group is placed in a shallow dish which is, in turn, placed in a cage which provides at least 1 cu. in. of space per pupa. If the large group procedure is used the test unit consists of approximately 500 pupae. If the small group procedure is used, more than 500 pupae are placed in stock cages and adult flies are sampled prior to testing. Under normal rearing conditions, at least 80 adult flies should be obtained from each 100 eggs seeded.

Adult Fly Food: The food for adult flies shall consist of 5 per cent spray dried, non-fat-milk solids and 2 per cent granulated sugar thoroughly dispersed in water. Roller dried or caked milk solids settle out of suspension within a few hours and are unsuitable as food. A 40 per cent formalin solution may be added to the food at the rate of 1/1500 to delay souring. Each cage is supplied daily with a dish containing at least 15 ml. food for each 100 flies, and so prepared as to prevent the flies from drowning. Satisfactory food must be available to the flies at all times.

B. Testing Flies: Before a fly spray test is started, the Peet-Grady chamber must be clean and have clean paper on the floor, all ports and openings must be closed, the temperature must be 82 ± 2°F., and all windows must be shaded equally. In both procedures,

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TABLE I. Small Group Method

Pair	*Culture*	*Date*	*% Dead* Sample 1	*OTI*	*Difference*[1]	*Deviation*[2]	*Deviation Squared*
1	C	3-8	58	50	+8	+4	16
2	C	8	62	55	+7	+3	9
3	C	8	60	54	+6	+2	4
4	C	8	52	52	+0	—4	16
5	C	8	49	46	+3	—1	1
6	E	9	61	54	+7	+3	9
7	E	9	46	49	—3	—7	49
8	E	9	53	51	+2	—2	4
9	E	9	57	54	+3	—1	1
10	E	9	53	46	+7	+3	9
			55.1M	51.1M	+4 MD	0	118 Sum d²

[1]Sample 1 kill minus OTI kill.
[2]Deviation from the mean difference (MD).

The mean difference (MD) between Sample 1 kill and the OTI kill is 4.0

$$\text{The standard error MD} = \sqrt{\frac{\text{Sum } d^2}{n-1}}\Bigg/\sqrt{n} = \sqrt{\frac{118}{9}}\Bigg/\sqrt{10} = 1.14$$

TABLE II. Large Group Method

Cage No.	*CULTURE E Nov. 21* Sample	% Dead	*CULTURE F Nov. 23* Sample	% Dead
1	OTI	43	2	69
2	1	44	3	65
3	3	57	OTI	54
4	2	63	3	58
5	3	52	1	45
6	OTI	47	2	77
7	1	39	1	54
8	2	71	OTI	46

Sample	*Mortalities*	*Average*	*Rating*	*Grade*
OTI	43, 47, 54, 46	47.5		
1	44, 39, 45, 54	45.5	— 2.0	B
2	63, 71, 69, 77	70.0	+22.5	AA
3	57, 52, 65, 58	58.0	+10.5	A

(1) Mixed according to CSMA specifications by the Ralston Purina Co., St. Louis, Mo.

(2) Standard Brands Inc. products. These can be obtained from local distributors in most cases

COCKROACH AEROSOL TEST METHOD

Tentative Method of the Chemical Specialties Manufacturers Association for Evaluating Aerosol Cockroach Insecticides*

I. INTRODUCTION

STARTING in 1942 extensive studies were made by various CSMA and Federal laboratories to develop a standard test method for evaluating aerosol insecticides against flying insects. This work lead to the adoption of the CSMA Aerosol Test Method for Flying Insects on October 12, 1952 (1), following the use of essentially the same method on a tentative basis starting in 1949 (2). During the same period a number of laboratories developed methods for evaluating aerosol insecticides against cockroaches. Descriptions of several of the methods appear in the literature (3,4,5), while other techniques were reported at meetings of the Insecticide Scientific Committee.

Early efforts of the Committee to develop a standard cockroach aerosol method centered around the use of space treatments in Peet-Grady or larger aerosol chambers with the insects exposed in suitable open cages. Following a cooperative test of a space spray method in 1952 and 1953, the Committee decided to use a direct spray treatment rather than a space treatment. It was also decided to use large nymphs of the German cockroach as the test insect and to try to adapt the procedure to the use of the same spray chamber specified for the Official Cockroach Spray Method (6). During 1954 a direct spray method was developed and studied by several CSMA and Federal laboratories. In a cooperative series of tests (early 1955), using coded dispensers with three different formulas (2.0% DDT plus 0.2%, 0.4% and 0.8% pyrethrins), all five laboratories were able to differentiate between the three formulas. A decision was then made by the Committee in May, 1955, to prepare the method in official form so that it might be considered for adoption on a tentative basis.

Reports of the Committee's studies appear in the minutes of the Insecticide Scientific Committee and the Committee reports in the CSMA PROCEEDINGS (7,8,9,10).

In this method it should be understood that the term "aerosol" applies to pressurized formulations containing 20 per cent by weight or less volatile ingredients (insecticides, base oils, solvents, etc.) and 80 per cent or more propellant liquefied gases (trichloromonofluoromethane, dichlorodifluoromethane, methylene chloride, etc.). Whether the method can be satisfactorily applied to formulations containing greater than 20 per cent low volatile ingredients will depend on additional study and cooperative tests.

The method here described is thought to offer a satisfactory means of determining the relative efficiency of aerosol formulations when applied as direct sprays to cockroaches. It is not designed to measure residual action. As a biological test it is subject to the variations that accompany the reaction of living organisms and should be employed under the supervision of a person familiar with the biological testing of insecticides. In order to measure with reasonable tolerance the relative effectiveness of different insecticides, the test is run in conjunction with the Official Test Aerosol, which is designated as the basis of comparison. The format of the method follows that of the Official Cockroach Spray Method.

II. APPARATUS

A. Reference Insecticide. The reference insecticide shall be the Official Test Aerosol (OTA) prepared by the CSMA, Inc. The OTA must be dispensed from the container in which it is supplied with particular care being taken that the OTA dispenser employed meets the specifications designated on its label.

B. Dispenser for Experimental Aerosol. No restriction is made on the dispenser employed in connection with the experimental aerosol formulation. However, it should be noted that the test results apply only to the experimental formulation as dispensed from the particular unit employed. In reporting results, the dispenser used with the experimental aerosol shall be specified.

C. Test Insect. The test insects shall be healthy, normal, undeformed last nymphal instars of the German cockroach, *Blattella germanica* (Linn.). Recently emerged last nymphal instars, e.g., those whose pigmentation is not dark, shall not be used for testing purposes. It is recommended that the last nymphal instar stage shall have been attained at least three days prior to testing.

D. Rearing Room. This room may be of any convenient size, constructed so as to be free from strong drafts and maintained at a temperature of 75 to 85°F. and a relative humidity of 30 to 50 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odor.

E. Testing Room. This room may be of any convenient size permitting adequate space for the operator to handle the test efficiently. While tests are being conducted this room shall be maintained at a temperature of 78 to 82°F. It is suggested that relative humidity be held between 30 and 50 per cent.

F. Spray Chamber. The spray chamber shall be a box-like structure of solid material measuring 18 inches wide, 18 inches long, and 25 to 30 inches high. The open floor of the chamber shall be covered with ½-inch mesh wire hardware cloth. Suitable guides shall be fastened to the chamber floor to permit the centering of the treatment container in some definite position in respect to the nozzle of the OTA and test aerosol dispensers. The top of the chamber shall be open. The front wall of the chamber may be in the form of a sliding door permitting convenient access to the interior of the chamber. The chamber shall rest on a stand, placing it at the proper height for convenient operation of the test.

An adjustable hinged shelf shall be affixed to the outside of the center of the back upper edge of the spray chamber. Any suitable shelf (see Figure 1) which will permit the OTA and test aerosol dispensers to be held in a standard position can be used. One satisfactory shelf is made of aluminum sheet fitted with adjustable guides (in slots with wing nuts) which permit adjustment for dispensers of different sizes. An adjustable metal support rod (casement window adjuster) can be used to regulate the angle of the shelf. Markings can be made on the rod and plate to permit rapid adjustment for different dispensers.

The above-described spray chamber is identical with that specified for the CSMA Official Cockroach Spray Method, except that the braces and mounting for the spray atomizer have been removed and the hinged shelf for holding the aerosol dispenser has been added.

G. Treatment Container. The Treatment container shall be a screen-bottomed container 3½ inches in diameter with 3-inch side walls. Sixteen mesh wire screen shall be soldered in place to form the bottom of the container in such a manner that the entire bottom is completely open. Ordinary tin cups of the proper dimensions with handles removed and the solid bottom replaced by wire screening have been found useful as test containers.

H. Insecticide Paper. Unsized, nonglazed, absorbent paper such as brown

*Chemical Specialties Manufacturers Association, 110 E. 42 Street, New York, New York.

kraft or gray bogus paper shall be used beneath the treatment container during the application of the aerosol mist. No special weight is specified, although 60 to 80-pound gray bogus paper has been found excellent.

I. Recovery Dishes. Glass crystalizing dishes measuring 125 millimeters in diameter and 65 millimeters high shall be employed as recovery cages. The bottoms of the recovery dishes shall not be covered with filter paper or other materials. Sixteen mesh wire screen covers may be employed as recovery dish covers during the 48-hour holding period following spray application in order to prevent the entry of wild roaches.

III. PROCEDURE

A. Rearing of Test Insects. Any suitable method permitting the production of large numbers of the test insect under controlled conditions of temperature and humidity as previously described may be employed. The rearing technique described by Woodbury and Barnhart (11), which makes good use of a brood chamber containing adult females from which large numbers of first instar nymphs may be collected at frequent intervals, has been successfully used in a number of laboratories. All molded food, dead females, and empty egg cases should be removed weekly. Wild cockroaches shall not be used, and all test insects shall have been reared under uniform conditions.

B. Food. Up until the time of testing, cockroaches shall be provided at all times with food and water. The standard food shall be Dog Chow Checkers manufactured by the Ralston Purina Company, St. Louis, Missouri, or equivalent.

C. Test Procedure. Last instar nymphs shall be isolated in the recovery dishes or other suitable containers from the cultures in groups of 20 by means of a suction device, by anesthetizing them with carbon dioxide gas or any other suitable method which does not injure them. In selecting the test insects, every effort shall be made to obtain uniform test groups.

Prior to use, the OTA and test aerosol dispensers shall be calibrated at 82 ± 2°F. to determine their spray rate in grams per second. The dispensers shall be aligned on the adjustable shelf and settings determined for the various dispensers to permit rapid handling. The dispensers shall be so aligned that the aerosol mist is directed into the open top of the treatment container which rests on the floor of the spray chamber. The treatment container shall be placed against the center of the front wall of the spray chamber. Suitable guides on the chamber floor or front wall of the chamber will aid in placing the treatment container in a standard position. A line may be drawn on the chamber wall and on the dispenser to aid in aligning the nozzle with the center of the top of the treatment container. The treatment container shall rest on a 5 x 5 inch square of insecticide paper. Except for the 5 x 5 inch square of paper, the chamber floor (½ inch mesh wire hardware cloth) shall be open. The paper shall be changed after each spray application.

EXAMPLE OF TEST DATA

		OTA		*Sample A*		*Sample B*	
Test	*Date*	*Dosage (grs.)*	*% D&M 48 hrs.*	*Dosage (grs.)*	*% D&M 48 hrs.*	*Dosage (grs.)*	*% D&M 48 hrs.*
1	2/15/55	3.1	90	3.3	75	3.2	35
2	2/15/55	3.2	80	3.8	80	3.1	40
3	2/15/55	3.2	35	2.0	65	2.9	20
4	2/22/55	3.3	50	3.2	75	3.2	35
5	2/22/55	2.7	55	3.3	75	3.1	50
6	2/22/55	3.0	80	2.9	60	2.8	35
7	2/22/55	3.0	60	3.1	65	3.3	35
8	2/22/55	2.9	50	3.0	80	2.9	25
9	2/22/55	2.9	60	3.1	75	2.9	35
10	2/22/55	3.3	35	3.0	70	3.6	50
Average		3.06	59.5	3.07	72.0	3.10	36.0

Reported as follows: Sample A—Meets Standard. Sample B—Does not meet Standard.

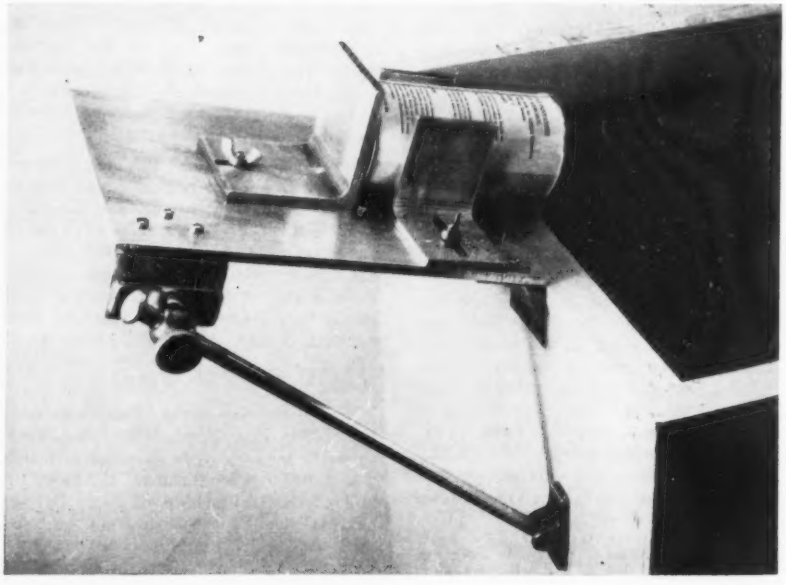
Immediately before spray application the cockroaches shall be transferred to the screen-bottomed treatment containers. These containers shall be free from all traces of insecticides and shall have the entire inner wall surface suitably oiled or greased to prevent the escape of the cockroaches and to confine them to the container floor. Prior to spray application the treatment container shall be agitated sufficiently to distribute the test insects uniformly over the container floor. The treatment container shall be removed from the spray chamber 30 seconds after the start of spray application. The test insects shall be immediately transferred from the treatment container to the recovery dish. The treated cockroaches shall be held under rearing room conditions through the 48-hour observation period and shall receive neither food nor water.

In evaluating a test sample, a minimum of 10 individual test groups shall be run for the test dispenser in conjunction with 10 test groups receiving OTA. An equal number of replicates shall be made for members of any given test series on a given test day. The average dosage employed shall be approximately the same throughout a given series of tests and of such magnitude as to result in an average of 50 per cent to 75 per cent of the insects dead and moribund at 48 hours with the OTA. Average dosages shall be considered the same if they agree within 0.2 grams. Cooperative tests among CSMA laboratories have shown the required dosage to be 2.0 to 4.0 grams. Test dispensers shall be weighed before and after the spraying of each test group of insects, and the weight of material used shall be recorded.

D. Assembly and Evaluation of Data. Evaluation of test dispensers shall be made on the basis of observations taken 48 hours after spray application, at which time the percentage of test insects normal, moribund, and dead shall be determined. Any insect showing signs of life but incapable of locomotion shall be considered moribund. Similar records taken at 24 hours or at intervals longer than 48 hours may be of interest in critical studies. It is recommended

FIGURE 1

(*Turn to Page 271*)



AEROSOL INSECTICIDES STORAGE TEST

Tentative Official Method of the Chemical Specialties Manufacturers Association for Storage of Aerosol Insecticides

AEROSOL insecticides are subjected to storage tests in order to ascertain the shelf-life of the complete package and to evaluate the degree of suitability of the valve and container components for their intended uses. It is impractical to promulgate a set procedure for conducting storage tests since variations will be necessitated by differences in the ultimate objective. For example, the primary interest of one investigation may be in valve evaluation, while another may be principally concerned with container suitability or the shelf-life of a new product in an existing package. It follows that storage test methods must be flexible enough to accommodate the small procedural changes thus required. An attempt will be made only to outline the principles to be observed in establishing a definite procedure in order to allow the individual investigator the prerogative of adapting these to satisfy his particular requirements.

There are three major points that should be borne in mind when a storage test of aerosol containers is to be made. First, sufficient samples should be available to replace any containers that fail during the course of the test and to make it possible to later extend the storage period, if desired. There is nothing more discouraging than reaching the end of a long storage test with a quantity of samples which, due to unusual conditions arising, are insufficient in number to provide a sound basis for drawing valid conclusions. Second, it is extremely important that the examinations of the test pack be conducted according to standardized procedures and at regularly scheduled intervals. Only if this rule is followed can there be any assurance that important developments will not be missed and that the results will correlate with those of other storage tests. Third, the examinations should be made by personnel familiar with the problem being investigated and well qualified to evaluate the condition of the containers, valve components and product. It is highly desirable to have the same individual conduct all the examinations of a given test pack since most of the data is not obtained by direct measurement and is, therefore, not entirely objective in nature. This and a standardized examination procedure will do much to minimize the effect of the human element.

Before any samples are committed to storage, certain information should be made available. So that the test pack can be intelligently set up, all pertinent background information concerning the problem should be assembled. Certain tests should be conducted to eliminate, insofar as possible, defective containers or valves from the tests, although the frequency of such defects should certainly be recorded. To make this segregation possible, pressure determinations and hot bath, vial leakage and spray tests should be made on each filled container. Conditions of filling and handling should approximate as closely as possible those that would be encountered commercially.

There are two types of storage tests that may be performed with aerosol insecticides. The first is the so-called "live" storage test, in which the valves are actuated and the determinations made at relatively frequent intervals. The purpose is, of course, to simulate conditions encountered during use of aerosol dispensers. The second type of test, often referred to as "dead" storage, simulates conditions found in warehouse storage and is performed when shelf-life information is sought.

Live Storage Test

Containers for "live" storage tests are generally stored at room temperature. In addition, a higher temperature storage, e.g., 98°F., is frequently employed. Use of the latter storage temperature is particularly desirable when a new valve or product is being evaluated. The use of storage temperatures below 32°F. or the alternate exposure of test containers to sub-freezing and elevated temperatures is said to have considerable merit in the screening of new valves or new valve materials.

If the purpose of the investigation is to evaluate a valve, half the samples at each storage temperature should be kept in an inverted position. If the product or any constituent thereof exerts a detrimental effect on the sealing material of the valve, often the conditions may be observed more readily in the case of the inverted cans. Six cans inverted and six upright for each temperature is the minimum sample of each variable that should be considered. If the test is to involve only one storage condition, ten to twelve cans per variable, upright and inverted, is a more desirable sample size.

Examinations of "live" storage cans are usually made weekly and possibly oftener if completion of the test in less total elapsed time is necessary. The tests are usually considered completed when 10 grams or less of product remains in the containers. Extension of the test beyond this point may cause erratic and unreliable results. At each examination weigh loss and discharge rate (10 seconds) are measured. The determination of internal pressure at each examination is usually not necessary, but it is recommended that pressures be taken initially and two or three other times, equispaced during the test. Particle size may also be determined, if desired. When any valve becomes inoperative or fails to operate properly, the container and valve should be torn down immediately to ascertain the cause of failure. Each container and valve should be critically examined as soon as possible after the final valve actuation of the test.

Dead Storage Test

A wider range of storage conditions are employed in "dead" storage tests than is the case with "live" storage, 95-100°F., room temperature, 130°F., and below freezing (0-32°F.) being used. Standard procedure usually calls for the use of 98°F. and room temperature storage, while the other temperatures are employed in special cases. Temperatures of from 95° to 100°F., often referred to as incubation temperature, may accelerate container corrosion and leakage if the containers are so predisposed. However, incubated storage should always be used in conjunction with room temperature since it is often difficult, if not impossible, to predict normal shelf-life on the basis of 98°F. tests alone. Storage below freezing is valuable for evaluating the sealing efficiency and suitability of the gasket materials in insecticide valves. Storage at 130°F. is employed when the resistance of the container to structural fatigue is to be determined. Containers at each storage temperature should be held both upright and inverted.

Examinations of containers in dead storage are usually made following 1-, 3-, and 6-months storage and at 6 month intervals thereafter until the test is completed. Most investigations are concluded after 24-months storage, but they may be extended for a much longer period, if the previous results and the objective so require.

Samples should be provided for the "dead" storage test so that a minimum of two dispensers of each variable from each storage temperature can be evaluated and torn down at each scheduled examination. The other samples remain untouched,

except for weighing, until they are needed at a subsequent examination. A minimum of twelve extra containers per variable should be stored at each temperature to allow for extension of the test, if such later becomes necessary, and to allow a larger number of samples to be inspected at the final examination. Thus, the minimum suggested number of cans per product, container or valve variable becomes:

$$4np\ (4+y)$$

where: y designates the duration of the test in years,
n the number of storage temperatures, and
p the number of storage positions to be employed.

Examination

The examination of the pack may be divided into performance determinations, container and valve inspection, and product evaluation. The performance of the complete aerosol insecticide package is ascertained by making weight loss, discharge rate, pressure and possibly particle size determinations. If entomological data is required, such may be obtained by standard procedures now extant. As a check on filling, the volatile/non-volatile ratio may be determined following these tests. After expulsion of the propellant, the product should be transferred and the container and valves carefully torn down and examined. The metal valve parts should be inspected carefully for evidences of corrosion, and the rubber or plastic components for swelling, softening or disintegration. Conditions in the container interiors should then be noted with special emphasis on any staining, detinning, rusting, pitting or other indications of corrosion that may be present. Microscopic examination of valve and container components is recommended for without this assistance important and indicative developments may be overlooked. The product from the test containers is usually examined for color change, precipitate or sludge formation. If corrosion is found or suspected, it is suggested that the product be analyzed for the moisture, iron and tin content. If any abnormal or undesirable conditions are found in performance of valve or product, sufficient additional samples of the same lot should be examined to confirm the findings.

Safety Precautions

Aerosol storage tests involve a container, valve or product of unknown compatibility and performance. For this reason, and remembering the violence that may accompany the bursting of aerosol containers, it behooves the investigator to observe safety precautions. The necessity of using gloves, safety shield and glasses, and equipment with proper controls does not need further amplification. If, in the course of a test, container perforations or signs of advanced corrosion are found, or if the product, dispensers and/or valves otherwise become unmerchantable, the entire lot of samples should be destroyed. Besides wasting time and space, to continue such dispensers under test is to run the risk of serious accident.

Typical Pack

The above can best be illustrated by presenting in table form (Table I) a typical aerosol insecticide storage test made to compare in a given container the shelf-lives of a new formulation and a standard formulation. It is assumed that the pre-test information has been accumulated, and containers or valves with obvious defects have been eliminated.

Other Test Procedures

There are several other procedures that should be considered in conjunction with an aerosol testing program.

In evaluating a valve for a given formula it may be desirable to subject the containers to a continuous discharge test whereby the containers are emptied in a single burst or a series of long bursts. Such a procedure is very rapid and may give valuable clues on the suitability of the valve gasket material for the product. If indications of weakening, disintegration or undue swelling of the valve gaskets are found by means of this test, particular attention should be directed to the results of the live storage test.

Before commercial packaging of a new product or the use of a new container or valve is approved, certain information outside the scope of the laboratory test should be obtained. Filled containers should be subjected to normal handling, cartoning and shipping operations to determine the suitability of protective devices and the resistance of containers and valves to shock. Dispensers should be shipped to and stored in warehouses having the extremes in temperature that could be encountered in distributing and marketing the product. After the predetermined storage period in the various locations, the containers should be returned to the laboratory for complete examination.

Once commercial packaging of a product is initiated, a program may be inaugurated whereby defective or complaint dispensers encountered in the field are returned to the laboratory. By this means a continuous check on quality is maintained and it may enable the packer to be forewarned of difficulty before it becomes serious so that corrective measures may be taken.

Summary

To summarize, the three major prerequisites for an adequate storage test are: (1) the providing of an adequate number of samples, (2) a well planned examination schedule and procedure, and (3) competent personnel to perform the tests. If the basic rules outlined above are adhered to, much valuable information, not obtainable by other means, will result, thus rendering the storage test an indispensible adjunct to the aerosol insecticide testing program.

TABLE I

	"Live" Storage	*"Dead" Storage*
Product, container, valve variables	2 (product)	2 (product)
Storage temperatures	R.T., 98°F.	R.T., 98°F., 30°F.
Storage positions	Upright & Inverted	Upright & Inverted
No. of filled cans per formula	24 (half inverted at each temperature)	144 (half inverted at each temperature)
Total No. of filled cans	48 (half inverted)	288
Duration of test	Until completed	2 years
Examination schedule	Weekly	1,3,6,12,18,24 months
No. of containers examined each examination	48 cans	24 cans (2 per product per temperature per position), all remaining dispensers examined after 24 months storage. All dispensers weighed.
Examination procedure	1. Wt. loss 2. Pressure (see above) 3. Discharge rate (10 sec.) 4. (Particle size) 5. Valve and container inspection at final examination or when failure occurs.	1. Wt. loss 2. Pressure 3. Discharge rate (10 sec.) 4. Valve examination 5. Container examination 6. Product examination

AEROSOL TEST METHOD FOR FLYING INSECTS

Official Method of the Chemical Specialties Manufacturers Association* for Assaying Aerosols for Flying Insects

I. INTRODUCTION

Early in the developmental period of liquefied gas aerosols starting in 1942 and especially following their appearance on the civilian market on a large scale in 1946, the need for a common method of biologically assaying aerosols became apparent. The literature records several testing techniques (among them 1, 2, 3, 4, and 5) employed by various investigators at that time, but the necessary cooperative tests leading to the development of an official method were not initiated until 1947. The first series of cooperative aerosol tests among industrial and federal laboratories was organized and conducted in 1947 under the direction of the NAIDM (now CSMA) Aerosol Committee (6). These tests employed a standard formulation in a standard dispenser at three dosage levels by the method in current usage in the cooperator's laboratory. Employing the results of the first cooperative tests as a basis, a second series of cooperative tests was designed and conducted under the direction of the NAIDM's Insecticide Scientific Committee. In this second series of tests made during the period May to October, 1948, four conventional low pressure aerosol formulations, each packaged in a standard dispenser, were tested by nine cooperating laboratories. In these tests (7), the use of free flying flies, a standard dosage and a standard testing technique were employed. A third series of cooperative tests were conducted by ten participating laboratories. These tests (8) made use of three coded formulations containing .2%, .4%, and .8% pyrethrins. (See minutes). The method here presented is based on the outcome of the first, second, and third series of cooperative tests and, in so far as practical, follows the Official Peet-Grady (9) Test Procedure (both large and small group). This technique for testing aerosols should be regarded as a practical test method designed for the comparison of formulations in the dispensers in which they will be employed by the consumer. It is restricted at present to the use against house flies, although it is felt that with modifications in dosage the general procedure would be satisfactory for other flying insects.

II. APPARATUS

A. Reference Insecticide.

The reference insecticide shall be the Official Test Aerosol (OTA) prepared by the CSMA, Inc. The OTA must be dispensed from the container in which it is supplied with particular care being taken that the OTA dispenser employed meets the specifications designated on its label.

B. Dispenser for Experimental Aerosol.

No restriction is made on the dispenser employed in connection with the experimental aerosol formulation. However, it should be noted that the test results apply only to the experimental formulation as dispensed from the particular unit employed. In reporting results, the dispenser used with the experimental aerosol shall be specified.

C. Test Insect.

The test insect shall be the house fly (*Musca domestica*, L.) reared from a strain mixed under the supervision of the CSMA. Healthy test groups having an average age of four days shall be used and individual flies in the test groups shall not be less than three nor more than six days old at the time of testing. The strain shall be of such susceptibility that the Official Test Insecticide (OTI) will cause a 24-hour mortality of 30 to 55 per cent and with approximately 95 per cent of the flies paralyzed at ten minutes following spray application by the Peet-Grady method.

D. Fly Cages.

Cages of any convenient type may be used if they provide at least 1 cubic inch of space per fly and have at least two sides and the top screened. It is suggested that the base be square in shape to provide maximum floor space. The floor of the cage is preferably detachable to facilitate cleaning and inserting a paper floor covering. The cages are constructed of wood or other suitable material and 16 mesh wire screening; they are fitted with a sleeve opening, rubber membrane, or a door.

E. Rearing Room.

This room may be of any convenient size constructed so as to be free from strong drafts, and maintained at a temperature of 82 ± 2 degrees Fahrenheit and relative humidity of 50 ± 5 per cent. It should be separate from the testing room in order to eliminate the possibility of traces of insecticide coming in contact with the test insects. Ventilation should be provided to reduce odors and gases from fermenting media.

F. Testing Room

This room shall be of any convenient size, capable of holding the aerosol test chamber (Peet-Grady Chamber or larger chamber) and permitting adequate additional space for the operator to handle the test efficiently. While conducting tests, this room shall be maintained at a temperature of 75 to 85 degrees F. It is suggested that the relative humidity be held between 40 and 70 per cent. Since the exhaust fan of the chamber will move relatively large quantities of air, the temperature of the air entering this room should be approximately that specified above.

G. Aerosol Test Chamber.

The test chamber shall be a Peet-Grady Chamber as specified in the Peet-Grady Method, or a larger chamber meeting the general specifications of the Peet-Grady Chamber. In the case of larger chambers, it is recommended that the dimensions be such as to approximate a normal room.

H. Exhaust Fan.

An exhaust fan moving not less than 1000 cubic feet of air per minute through the Peet-Grady chamber, or a fan of proportionately larger capacity for testing chambers larger than the Peet-Grady Chamber shall be used to ventilate the chamber after each test. It shall be arranged with adequate piping to exhaust the chamber vapors outside of the building.

I. Insecticide Paper.

Unsized, nonglazed, absorbent paper, such as brown kraft or gray bogus, shall be used to cover the chamber floor. No special weight is specified although 60 to 80-lb. gray bogus paper has been found excellent. In certain laboratories testing chamber ceilings and walls have been covered with cardboard, kraft paper or other material suitably arranged for easy renewal to reduce chamber cleaning difficulties.

J. Apparatus for Picking Up Flies.

Any convenient means of picking up the paralyzed flies without injuring or appreciably disturbing them may be used. If a vacuum device is used, it must produce gentle suction, have a sufficiently large receptacle to prevent crowding of the flies, and shall be cleaned after each test with the same materials used in cleaning the chamber.

In laboratories in which it is felt desirable to capture unparalyzed flies at the end of the test exposure period, suitable means of capturing the flies without injury in a clean apparatus shall be employed.

*Chemical Specialties Manufacturers Association, 110 E. 42 Street, New York, New York.

III. PROCEDURE

A. Rearing and Handling Flies.

In this procedure, eggs are transferred to medium suitable for the development of larvae. The pupae are collected from the medium and placed inside of cages, and the adult flies emerge and remain in these cages until the day of testing.

(a) Larval medium: The preferred containers are cylindrical glass battery jars approximately 6 in. in diameter and 9 in. high. For one jar, mix 340 gm. (12 oz.) standard dry alfalfa-bran mixture (*1) with approximately 750 ml. of an aqueous suspension containing 15 gm. moist cake yeast (*2) and 10 ml. Diamalt (*3).

Mix thoroughly until a loose, fluffy medium is obtained, transfer it to the battery jar without packing, cover with cloth and set in the insectary. The amount of suspension required for best rearing results will need to be determined in each laboratory and it may be varied in order to prevent mold growth. It is suggested the medium be prepared in the late afternoon of the day before egg collection.

(b) Eggs: Eggs are collected for a period not longer than 16 hours from food dishes or other oviposition sites in cages containing mature flies not more than 8 days old. It is suggested that fresh oviposition medium be placed in fly cages in the late afternoon and eggs be collected early on the following morning. After collecting the eggs they must be measured and seeded without delay. Wash the eggs in tap water at room temperature and measure 2000 eggs as accurately as possible. This may be done by allowing the eggs to settle in a calibrated pipette or graduate (0.1 ml. settled eggs contains about 700) or the eggs can be filtered and measured in calibrated pits or cells. Use 10 ml. tap water to measure and to scatter the eggs in a ½ inch pit located in the center of the jar of larval media. Cover the eggs with a loose medium, replace the cloth covers on the jars, and set jars in the insectary so that at least 1.5 inch separates each jar to permit free air circulation. The maximum temperature in the jar (about 3 days later) must not exceed 130°F. Under normal conditions, more than 85 per cent of the eggs should hatch within 36 hours of the time they are laid.

(c) Pupae: Mature larvae migrate to the top portion of the medium and normally all larvae will have pupated by the seventh day after seeding eggs. When this occurs, the portion of the medium containing pupae is loosened, poured into a shallow tray, and air dried at room temperature. An electric fan may be used to hasten drying. Pupae are separated from the dry medium by sprinkling the pupae-media mixture on an inclined tray or chute set in front of an air blast such as that from an electric fan. The pupae must be handled gently and as little as possible in order to avoid injury. Under normal conditions, at least 95 per cent of flies will emerge from the pupae.

The separated pupae are thoroughly mixed and weighed in groups as test units and each group is placed in a shallow dish which is, in turn, placed in a cage which provides at least 1 cubic inch of space per pupa. If the small group procedure is used, more than 500 pupae are placed in stock cages and adult flies are sampled prior to testing. If the large group procedure is used the test unit consists of approximately 500 pupae.

(d) Adult Flies: Each cage is supplied daily with a dish containing at least 15 ml. for each 100 flies of a solution consisting of 5% spray dried, non-fat milk with solids (roller dried or caked milk solids settle out of suspension within a few hours and are unsuitable as food.) and 2% granulated sugar thoroughly dispersed in water; this shall be so prepared as to prevent the flies from drowning. A 40 per cent formalin solution at the rate of 1/1500 delays souring of milk for several hours. Satisfactory food must be available to the flies at all times. The series of test units is kept until the second day of oviposition (usually the 14th day after the culture was prepared) when they are ready for testing. Under normal rearing conditions, at least 80 adult flies should be obtained from each 100 eggs seeded.

B. Testing Flies.

Before a fly aerosol test is started, the aerosol test chamber must be clean and have clean paper on the floor, all ports and openings must be closed, and the temperature must be 82 ± 2°F., and all windows must be equally shaded. In chambers where walls and ceilings are covered with paper or other material, contamination, if present, must be at sufficiently low levels so as not to influence test results. Chambers are considered to be contaminated and unsatisfactory for test use when test flies, held in them for a 12 to 16 hour period with food but without insecticide treatment, show mortalities in excess of 10%, or when over 10% of the flies are paralyzed within 30 minutes after liberation. It is recommended that laboratories make a standard practice of taking contamination observations, employing a normal fly test group, following each day's testing. In both the large and small group procedures, only flies which are capable of flying shall be liberated into the aerosol test chamber. In the small group method, a sample of 100 ± 5 flies is used in each test; but in the large group procedure, all flies in one cage are used in a single test. Samples may be taken by liberating the flies directly into the chamber and continuing until about 10 per cent of flies remain in the stock cage. These are discarded. Samples may be taken also by discarding the first 100 flies and then counting 50 flies into each of a series of small cages. One hundred flies are counted into the last cage and, working backward, 50 flies are added to each. Flies remaining in the stock cage are discarded. The order of spray treatments must be randomized.

After liberating the flies in the chamber, and with the bomb at 82 ± 2°F., a total of 3.0 ± 0.5 grams of aerosol mixture per 1000 cubic feet shall be applied in a continuous flow. In Peet-Grady Chambers, this is 0.648 ± 0.108 grams. The dispenser nozzle may be oscillated slowly to effect uniform distribution of the aerosol mist within the test chamber. The mist shall not be directed onto chamber wall and ceiling surfaces. The test dispenser shall be weighed before and after the liberation of the aerosol mixture and the actual weight of material introduced shall be recorded. The chamber is closed at a constant temperature in the range of 82 ± 2°F. for 15 minutes from the time the aerosol mist is introduced.

Counts shall be made as to the number of flies "down" (paralyzed) at 5 and 10 minutes following insecticide application. These counts are especially important because with conventional formulations practically all flies "down" at 15 minutes fail to recover during the 24-hour observation period. At the end of 15 minutes the ports are opened and the chamber is ventilated by means of the exhaust fan while the flies are collected.

The "down" flies are picked up and transferred immediately to clean cages meeting the specifications of Section II, paragraph d. These flies may be counted when they are picked up or later, depending upon which time is more convenient. During the subsequent 24-hour recovery period, the cage is placed in the rearing room and supplied with an adequate quantity of a 5 per cent sugar solution, arranged so that the top of the dish is not more than ¾ inch above the floor of the cage and the flies can not drown in it. A gauze-wrapped ball of cotton saturated with 5 per cent sugar solution is also satisfactory.

The "up" (unparalyzed) flies in the chamber at the end of the 15-minute exposure period must be counted and either discarded or captured.

After a test is completed all toxic residues must be removed from the chamber or, if allowed to remain, must be at sufficiently low levels so as not to affect test results. Where chamber surfaces permit, wiping with a clean cloth saturated with alcohol containing 10% acetone will remove a number of toxic residues.

C. Assembling the Data.

The number of "up" flies must be counted and recorded at the end of the 15-minute exposure period. The

(*Turn to Page* 270)

*1 Mixed quarterly according to CSMA specifications by the Ralston Purina Co., St. Louis, Mo., on the basis of orders received by the first of January, April, July and October, in 50 lb. bags. Terms—pay on receipt of invoice.

*2 5 gms. dry yeast may be used.

*3 Standard Brands Inc., products. These can be obtained from local distributors in most cases.

TENTATIVE METHOD FOR DETERMINATION OF PARTICLE SIZE DISTRIBUTION OF SPACE INSECTICIDE AEROSOLS*

THE aerosol is drawn into a wind tunnel so that the individual particles deposit on a rotating microscope slide. The particles on the slide are counted and classified by size. A suitable correction is applied in order to calculate the particle sizes in the original spray. This is an adaptation of methods previously described by Yeomans et al. (Ref. 1) and Bower. (Ref. 2).

Apparatus:

Wind tunnel: a tube about 18" in diameter and 4' long. This tube may be attached with a hinged joint to a compartment which contains the exhaust fan and slide rotator. The fan (nominal capacity of about 2400 cubic feet per minute) is operated at reduced voltage and speed so as to give a wind velocity in the tunnel of 500 ± 100 feet per minute. (Note 1).

Slide rotator: a small motor-driven arm fitted with a microscope-slide holder and a counterbalance. The radius of the center of the slide is 4". The slide is held with its 3" side parallel to the axis of the tunnel. The 1" end of the slide is tilted 40° forward in the direction of rotation. The slide rotator is operated at 450± 50 rpm. (slide velocity 10.7 ± 1.2 mph.) (Note 2).

Microscope and accessories: a standard microscope fitted with a 10x ocular lens containing a 50-division micrometer disc, a 10x objective lens and a mechanical stage. A filar micrometer may be used for greater accuracy. The micrometers and the fine focus adjustment must be calibrated in microns per unit, using a stage micrometer slide as standard. Ordinary 1" x 3" microscope slides are used for collecting the droplets and for covering them to prevent evaporation before they are counted. The cover slides are supported by paper shims. These are 1" x 3" pieces cut from heavy paper or light card stock. Three holes 5/8" in diameter are cut in them and one side is marked "UP." (Note 3).

Preparation of Slides:

The slides must be treated so that the oily droplets will not spread but will remain separate as small convex lenses on the surface. The slides are thoroughly cleaned, rinsed and dried. They are then dipped in a 10% solution of "Dri-Film" SC-87 (General Electric Company) in toluene, drained carefully and dried at 180-220°F. for 30 minutes. They should be exposed to moist air or rinsed in acetone before use. They may be repeatedly rinsed with acetone and reused. When the droplets no longer form distinct lenses, the slides should be recleaned and recoated. The slides should be stored in a dust-tight box and their surfaces should not be touched before the spray sample is collected.

Operation:

The aerosol units to be tested are placed in a water bath at 80 ± 2°F. The ventilating fan is started and its speed is regulated to provide the standard wind velocity of 500 ± 100 ft. per minute. A treated slide is placed in the slide rotator, which is started and regulated to 450 ± 50 rpm.

The aerosol unit is held with the valve at the axis of the wind tunnel, about 6" in from the open end. A piece of cheesecloth is placed over the valve of the aerosol unit, and the valve is opened. After about 1 second's spray (to bring the valve to a steady state and give a typical spray), the cloth is removed from the valve for about one-half second, and the spray is allowed to travel down the tunnel. The valve is then closed and the motors are stopped. The slide is removed from the holder and promptly covered. (Notes 4, 5).

Determination of Particle-Size Distribution:

The diameter of a droplet as measured on the slide must be corrected for the spread that has taken place, so that the diameter of the original sphere can be determined. As the spherical droplet impinges on the slide it becomes a convex lens. The spread correction factor can be found by measuring the diameter and the focal length of this lens by the following method as described by May. (Ref. 3). The filar micrometer is fitted to the microscope, the substage condenser is removed and the flat side of the substage mirror is used. Using the mechanical stage, the field within one of the holes of the cover support is scanned. Every fifteenth droplet is measured for a total of 13 droplets so that about 200 droplets have been scanned. The diameter (2A) of each selected droplet is measured accurately with the filar micrometer.

The focal length (f') of each selected droplet is measured by the following method: The calibrated fine focus adjustment is set on zero, and the plane of the slide is brought into sharp focus by using the coarse adjustment. At the proper setting, the boundary of the droplet appears as a ring which is alternately light or dark as small changes are made in the focus. A window or other wide light source more than two feet away is used. The microscope tube is now raised by using the fine focus adjustment until the light source or the bars of the window are brought into sharp focus as seen through the droplet. The focal lengths so measured are recorded along with the corresponding diameters on the report sheet. The ratio of the focal length to the diameter (f/2A) is calculated and listed for each droplet. The average value of this ratio is determined and is corrected by multiplying by (V/F), the ratio of the scale factors which corrects the filar micrometer (F) and the fine focus adjustment (V) settings to actual micron values.

The spread correction factor (C) is shown in Figure 1, which has been constructed from May's data. (Ref. 3). Using the average value of the ratio of the focal length to the diameter of the individual droplets, (V/F) (f'/2A), record the spread correction factor (C) from Figure 1. (Note 6).

The droplets on the slide are now classified by size. The filar micrometer is removed and the 10x ocular lens containing the calibrated ocular micrometer (M microns per unit) is inserted into the microscope tube. The diameters of 200 consecutive droplets are measured by means of the ocular micrometer. Each particle is measured to the nearest half unit on the micrometer scale and classified accordingly. A tally sheet is prepared (on the back of the report sheet) showing the numbers of particles (f) in each of the different size classes. For example, a particle estimated to cover 2.7 micrometer divisions is counted as being in the 2.5 class; a particle estimated as covering 2.8 divisions is classified in the 3.0 class. All the particles counted as being in a certain class are assumed to have the standard diameter of that class (such as 2.5, 3.0 etc.). These numbers are called scale class marks. Each scale class mark is then multiplied by the product (CM) of the spread correction factor and the scale correction factor for the ocular micrometer to give the class mark (d), the diameter in microns of the original spherical droplets.

Report:

The data should be reported on the basis of the cumulative weight per cent of the spray which has a particle-size less than or equal to 5, 10, 15, etc., microns. The mass median diameter, that

*Presented by the Particle Size Sub-committee, Scientific Committee, Aerosol Division, Chemical Specialties Manufacturers Association. Reported May 8, 1956 to the Scientific Committee and adopted December 3, 1956. Accepted by the Aerosol Division Administrative Committee December 4, 1956.

is, the diameter at 50 cumulative weight per cent, should also be reported.

Multiply the number of particles (f) in each size class by the class mark (d). This product (df) is proportional to the weight of all the particles in this size class in the original spray. (Note 7). Add all these products and list the subtotals ($\Sigma^1 d_i f_i$) opposite each class mark. Divide each subtotal by the total ($\Sigma^n d_i f_i$) to get the cumulative weight per cent at each class mark.

Particle-size distributions often follow a logarithmic normal distribution curve. This can be plotted as a straight line by using logarithmic probability graph paper (Codex Book Company, Inc., Norwood, Mass., #3128).

Plot the values for the cumulative weight per cent at the class marks (particle diameters), and draw the best smooth curve through these points as shown in Figure 2. The curve thus obtained represents the total particle-size distribution produced by the aerosol unit at 80°F. For the report, record the cumulative weight per cent at each diameter 5, 10, 15 . . . 50 microns from the curve. Also list the diameter at 50 cumulative weight per cent as the mass median particle-size.

A particle-size analysis of the CSMA official test aerosol insecticide 1955-1960 on the proper type of report form and graph paper is shown in Table I and Figure 2.

Estimation of Error:

Since only 200 particles are counted, some size classes contain very few particles. The cumulative weight per cent calculated for such a size class may be somewhat inaccurate. An estimate of error at each class park is given by the equation

$$\text{Error } (\%) = \pm \frac{100 \sqrt{\Sigma^1 d_i^2 f_i}}{\Sigma^n d_i f_i}$$

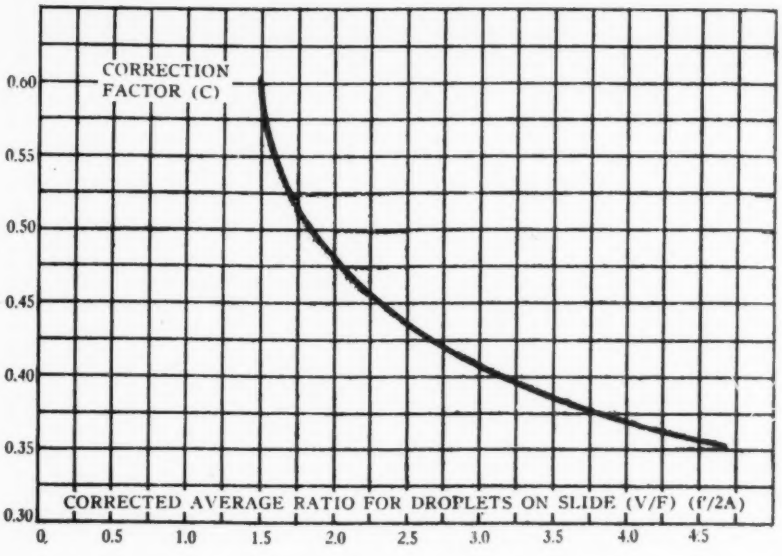


FIGURE 1

Spread correction factor (May) (Refractive Index 1.5).

where $\Sigma^1 d_i^2 f_i$ is the cumulative sum of the products (d^2f) of the number of particles (f) in each size class, up to and including the one for which the error is being calculated, times the square of the corresponding class mark (d^2); and $\Sigma^n d_i f_i$ is the sum of all the products (df) of the number of particles (f) in a size class times the corresponding class mark (d). This sum will already have been computed in calculating the cumulative weight per cent at each true class mark.

Two out of three separate determinations will fall within the range defined by the above function. If greater accuracy is required, more particles must be counted.

Notes:

1. The wind velocity should be measured at the axis of the tunnel. The velocity may be correlated with the voltage on the fan motor, or the rate of rotation of the fan, so that the wind velocity need not be determined before each run.

2. The "Visutac," a small hand-held stroboscope, is recommended for standardizing the speed of the ventilating fan and of the slide rotator. This instrument is made by the Boulin Instrument Corporation, 65 Madison Avenue, New York, New York.

3. The slides must be covered to prevent evaporation of the droplets. Microculture slides having a spherical concavity may be used, but this introduces some distortion and requires constant refocusing of the microscope as the droplets are counted. Any cover used must leave 200-300 microns air space above the collecting slide.

4. One of the paper cover supports is placed on a paper towel and several drops of insecticide concentrate are distributed around the border by means of a dropper. This paper is laid carefully over the exposed slide and a cover slide is placed over the paper. This "sandwich" may be held together with scotch tape at the ends. The droplets must be on the upper surface of the lower slide. Additional drops of concentrate may be added to the paper between the slides, if necessary, to keep the paper moist. Insecticide concentrate is easily collected by spraying the aerosol unit directly into the large end of an empty drying tube. The concentrate, containing little or no condensed

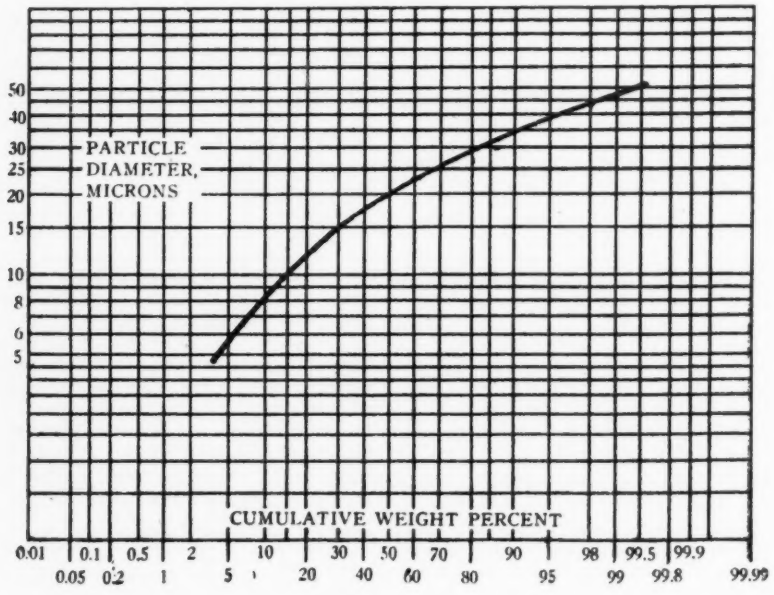


FIGURE 2

Particle-size distribution of CSMA OTA.

moisture, is collected in a vial at the small end of the tube.

5. The proper time of exposure is important. One-half second is usually about right for space insecticides. Very fine sprays may require a longer time. Coarser sprays will require a much shorter time. The clear area within one of the holes should contain 600 to 1000 droplets. The proper coverage can be determined by a quick visual inspection.

6. The refractive index of the concentrate is assumed to be 1.5. Kerosene has a value of 1.44. Aromatic or chlorinated solvents or insecticides raise the value towards 1.5. The OTA concentrate obtained as in Note 4 had a value of 1.492.

7. The rotating slide in the wind tunnel does not collect particles of different sizes with equal efficiency. A higher proportion of larger particles is collected than of the smaller particles in the same aerosol spray. The number of particles counted in each size class must be divided by the relative collection efficiency for that size class in order to correct for the sampling bias of the apparatus used.

The weight of each particle is proportional to the cube of its diameter. Therefore, the relative weight of the particles collected in each size class is determined by multiplying the number of particles found in that size class by the cube of the class mark, and dividing by the efficiency of collection on the microscope slide.

For particles having diameters up to about 50 microns, the efficiency of collection in this apparatus, operated as defined, increases directly with the square of their diameters. Therefore, the relative weight of particles in each size class in the original spray can be determined by multiplying the number of particles counted in that size class by the class mark; that is, by the diameter cubed divided by the diameter squared.

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TABLE I

Aerosol Particle-Size Distribution

Spread Correction — Date 4/25/56

Drop No.	Filar Micr. Left	Filar Micr. Right	Dram. 2A	Focus f'	Ratio f'/2A
1	178	211	33	62	1.88
2	25	51	26	48	1.85
3	510	550	40	77	1.93
4	655	683	28	58	2.07
5	600	646	46	97	2.11
6	920	1000	80	192	2.40
7	538	602	64	205	3.20
8	246	328	82	200	2.44
9	91	188	97	254	2.62
10	473	504	31	99	3.19
11	600	683	83	192	2.31
12	470	552	82	178	2.17
13	75	152	77	164	2.12

Average f'/2A 2.33 Corr. Av. (V/F) (f'/2A) 2.41

Sample OTA No. 1

Notebook 37-136

Rotor Speed 400 RPM

Fan Speed 825 RPM

Factors (microns per unit)
Filar (F) 0.967
Vertical (V) 1.00
Ratio (V/F) 1.034
Ocular (M) 15.1
Spread Corr. Factor (C) 0.438
Class Mark Factor (CM) 6.61

DISTRIBUTION

Scale Class Mark	Class Mark d	Freq. f	Weight df	Cum. Wt. $\Sigma'df$	Cum. Wt. %
1	6.6	50	330	330	6.8
1.5	9.9	32	317	647	13.3
2	13.2	51	673	1320	27.2
2.5	16.5	31	512	1832	37.8
3	19.8	34	673	2505	51.7
3.5	23.1	16	370	2875	59.3
4	26.4	40	1056	3931	81.1
4.5	29.7	8	238	4169	86.0
5	33.0	8	264	4433	91.5
5.5	36.4	2	73	4506	93.0
6	39.7	3	119	4625	95.4
6.5	43.0	3	129	4754	98.1
7	46.3	2	93	4847	100

REPORT

Diam., microns	Cum. Wt. %
5	4
10	14
15	30
20	50
25	70
30	83
35	92
40	96
45	98.4
50	99.4
20	50

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TENTATIVE METHOD FOR INTERNAL PRESSURE DETERMINATION OF AEROSOL PRODUCTS IN LIGHTWEIGHT CONTAINERS*

THE purpose in developing this method is to make available to industry, the Bureau of Explosives and other Governing Agencies, a proven method of measuring the true and complete pressure of aerosol containers without adding or detracting in any way from this pressure.

The many series of tests upon which the method is based, conducted by 18 cooperating laboratories in various parts of the country, are at the time of this writing, not yet fully completed. Further additions and refinements are contemplated to narrow the range of error as the data dictate. The method is being presented at this time since it is urgently needed to supersede methods made obsolete by the many new pressurized products marketed in recent years.

Apparatus Required

1. Can piercing pressure measuring device manufactured by Builder's Sheet Metal Works, 110 Wooster Street, New York 12, New York. (See Figure 1)

2. Constant temperature water bath with automatic temperature control having a maximum temperature variation of plus or minus 0.5°F. Must have operating range of from 70°F. to 130°F., and must be at least 10" deep and 8" wide.

3. Two thermometers, gravity A.S.T.M. #12F (—5°F. to +215°F.) with 0.5°F. graduations.

4. Gas supply, preferably through pressure regulator. Gas should be inert, but must be unliquefiable under the conditions of the test. Nitrogen, compressed air, monochloridifluoromethane and carbon dioxide have been successfully used.

5. Stop watch and/or timer.

6. Access to a dead weight tester for gage calibration. (This may be eliminated subsequently in lieu of a standard pressure package if the latter proves feasible).

7. Barometer, mercury.

8. Silicone stopcock grease.

Procedure

Upon receipt of apparatus, standardize gage over entire pressure range on deadweight tester, correcting for barometric pressure to sea level. This will detect any deficiencies inherent in the gage caused by shipping, assembling, etc.

Loosen wing nuts holding top plate, and raise to allow insertion of a pressure can. Adjust lower wing nuts to about 1/16" below can level. Screw gage assembly upward, in top plate, so that piercing pin is fully retracted to allow plate to firmly contact bottom seam of can. Apply light film of silicone grease to can bottom to lubricate rubber seal. Screw light film of silicone grease to can bottom to lubricate rubber seal. Screw top wing nuts down tightly. All needle valves should be closed at this point. Invert apparatus and quickly screw gage assembly down snug, piercing can. Immerse complete apparatus in 130° water with water level covering all screw joints. Open needle valves (1) and (2) and observe all connections for leaks. The apparatus must be completely leak free. Remove can from apparatus. Place test can in apparatus and pierce in the same manner as before. Immerse can in constant temperature water bath with water level just below valve (1). Container should be surrounded by at least two inches of water on all sides. Place ASTM thermometer alongside can, and second thermometer in center of water body. Readings of both thermometers should agree within 0.1°F. If they do not, inadequate agitation of bath is indicated and must be corrected before proceeding. Containers must be held at constant temperature as follows:

12.5 oz. capacity or less—
non aqueous product—30 min.
12.6 oz. capacity or more—
non aqueous product—60 min.
5 oz. capacity or more—
aqueous product—60 min.

After half of immersion time has elapsed, quickly remove container and agitate with 6 vigorous up and down shakes and replace in water bath. Attach prepressurizing line to quick disconnect, open valve (2) and prepressurize gage to approximately 5 p.s.i. below estimated container pressure by careful control of valve (3) or with pressure regulator. Close valve (3) tightly. After full immersion time has elapsed, carefully open valve (1) very very slightly until gage needle reacts, just perceptively. Close valve (1) and if gage needle moved upward, increase the prepressurizing pressure about 2 p.s.i. If gage needle moved downward, decrease prepressurizing pressure about 2 p.s.i. Repeat careful cracking of valve (1), until gage indicator reacts slightly a second time. Repeat

(*Turn to Page 269*)

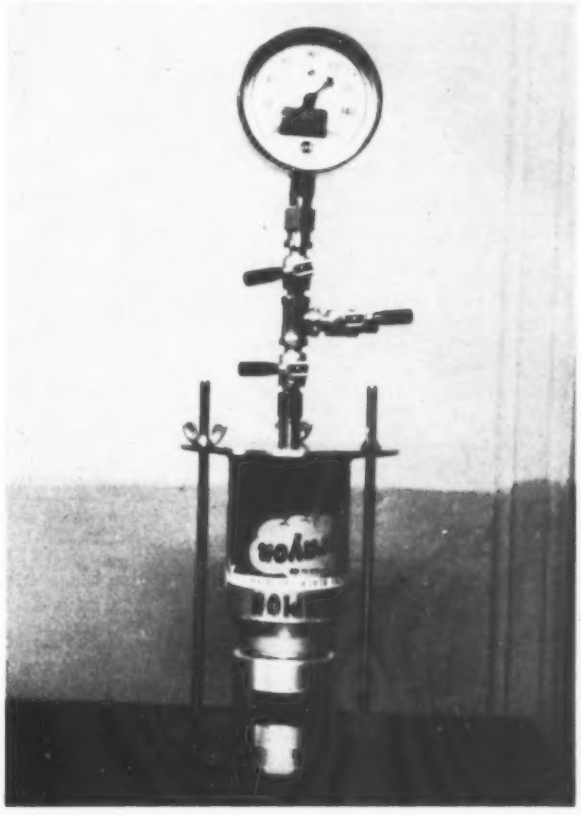

FIGURE 1
CAN PIERCING PRESSURE MEASURING DEVICE

*Presented by the Special Pressure Determination Sub-committee, Scientific Committee, Aerosol Division, Chemical Specialties Manufacturers Association. Reported October 16, 1956 to the Scientific Committee and adopted December 3, 1956. Accepted by the Aerosol Division Administrative Committee, December 4, 1956.

TENTATIVE INSPECTION PROCEDURE FOR GLASS AEROSOLS*

IN view of the hazard involved in the use of glass containers for aerosol products, the CSMA Glass Bottle Advisory Committee has directed that standard pretesting procedures be established to recommend optimum filling methods, which will insure marketable pressurized products presenting a minimum of danger to the consumer.

A summary of pretesting procedures is presented herewith to serve as a guide for present and potential packagers of glass aerosol products. These methods have provided excellent results in the field, and are listed in descending order of occurrence after receipt of containers from the glass manufacturer as follows:

1. Specifications

a) *Bottle Capacity* — The internal volumes of randomly selected bottles, with valves inserted, are determined to insure that the headspace will be adequate to prevent a liquid-fill condition from developing under any anticipated combination of filling volume and temperature.

b) *Other Bottle Dimensions*—Overall height, weight, plastic coating thickness and neck diameter specifications are sampled to determine acceptance of bottles on the filling equipment, with particular emphasis on attainment of satisfactory valve sealing. Specifications are to be supplied in blueprint form by the container manufacturer.

2. Visual Inspection

Units are sampled for visual observation of possible defects in the glass or external plastic coating, which may have been imparted during the manufacturing process, or in transit to the filler.

3. Cleaning

Bottles are submitted to a filtered, dry air blast prior to loading, in order to remove dirt or lint particles, which might otherwise present an unsightly appearance in formulations packaged in transparent units, or cause valve clogging upon spraying.

4. Pressure Test

All aerosol bottles must be able to withstand a minimum air pressure of 125 psig without bursting. This test serves as a positive check on glass distribution in the bottle, and eliminates those units exhibiting flaws obtained in handling prior to aerosol packaging. A suitable shield must be provided to protect plant personnel from possible injury occasioned by glass fragments during this test.

5. Evacuation of Entrapped Air

Adequate precautions must be observed to remove air from the bottles during the filling process, in order to maintain product vapor pressures in accordance with theory, and within the maximum limitation of 25 psig at 70°F. Various methods are utilized for this purpose as follows:

a) *Refrigeration Filling* — Product filling temperatures are controlled in order to provide the volatilization of sufficient propellent to displace air prior to valve closure.

b) *Pressure Filling* — Following concentrate loading, a vacuum is drawn on the container headspace to remove air prior to valve closure. An alternative method involving introduction of a small quantity of Propellent 12, which flashes off to displace the air, may be utilized in lieu of the vacuum method.

6. Vapor Pressure Determination

The internal pressure of glass aerosol products may be determined in accordance with the standard method proposed by the CSMA Glass Aerosol Subcommittee.

7. Water Bath Test

Filled units may be subjected to immersion in a water bath generally maintained at a temperature below the deteriorating point of the formulation perfume component. Present practice usually involves a temperature of 100-110°F. with an adequate immersion time commensurate with proper attainment of temperature equilibrium conditions. This test provides a check on improper valve closures and possible overfilling on the line.

8. Final Inspection

The units receive a final visual inspection for filling height, and for possible dirt or scratches on the exterior surfaces of the bottles or coatings to insure proper esthetic appearance. The filling height of opaque coated bottles may be checked in many cases by passing the bottles in front of a strong light source. Valves are briefly actuated to check performance, and the units are boxed for shipment.

*Presented by the Project Committee on Pretesting Glass Aerosols, Scientific Committee, Aerosol Division, Chemical Specialties Manufacturers Association. Reported to and adopted by the Scientific Committee, December 3, 1956. Accepted by the Administrative Committee, December 4, 1956.

TENTATIVE METHOD FOR DETERMINING VOLATILE—NON-VOLATILE RATIOS OF AEROSOL FORMULATIONS—VACUUM DISTILLATION METHOD†

THIS method was designed primarily for use with aerosol insecticides and room deodorants in which the formulation does not contain methylene chloride or volatile active ingredients. It is particularly useful for formulations that precipitate at low temperature (—20°F.) or contain suspended solids. The Densimetric Method of Analysis is recommended for those formulations not containing solids at low temperature (—20°F.) or that do not have volatile active ingredient components which interfere with the vacuum distillation method.

Equipment Required

1. Vacuum source which will produce about a 28" vacuum.
2. Thief equipped with needle valve.
3. Balance accurate to 0.1 gram.
4. Three 125cc vacuum Erlenmeyer type flasks.
5. Capillary tubing (may be made from discarded thermometer).
6. Hot water bath (120°F.).
7. Stoppers, vacuum tubing, etc.

Procedure

Three samples should be analysed simultaneously from the unknown dispenser. If possible, a sample should be prepared containing identical ingredients as compared to the unknown being analyzed, having a known non-volatile content to check the general procedure.

1. Clean the exterior of the sample(s) to be analyzed.

2. Attach thief to the dispenser at a point where the maximum amount of liquid may be withdrawn from the dispenser piercing in the liquid phase. Withdraw a small amount of sample through the needle valve, allow to drain and weigh.

3. Clean and weigh vacuum flasks with stoppers and capillaries in place (record as flask tare). A single hole stopper should be placed in the vacuum flask with the capillary extending all the way to the bottom corner of the flask. Thus, the flask can be tilted so that air being introduced through the capillary can bubble through a maximum amount of liquid.

4. Withdraw sample through thief into vacuum flask placing the end or outlet as far into the flask as possible. Withdraw approximately 50 grams, close needle valve, allow to drain and reweigh. Repeat this sampling procedure into other two previously weighed flasks.

5. Place vacuum flasks in a 120° water bath and allow propellent to boil

(*Turn to Page 269*)

†Presented by the Insecticide and Room Deodorants Standard Methods Sub-committee, Scientific Committee, Aerosol Division of the Chemical Specialties Manufacturers Association. Reported May 8, 1956 to the Scientific Committee and adopted December 3, 1956. Accepted by the Aerosol Division Administrative Committee December 4, 1956.

GLOSSARY OF TERMS USED IN THE AEROSOL INDUSTRY*

Active Ingredient — component of an aerosol formulation that produces the specific effect for which the formulation is designed.

Aerosol—a suspension of fine solid or liquid particles in air or gas, as smoke, fog, or mist. As defined by the Department of Agriculture, 100 per cent of the particles in an insecticidal aerosol spray must have a diameter less than 50 microns and 80% of the particles must have a diameter less than 30 microns.

Aerosol Insecticides Storage Test —tentative official method (sponsored by CSMA) for determining storage characteristics of aerosol insecticides.

"Aerosol" Product — self-contained sprayable product in which the propellent force is supplied by a liquefied gas. Includes space, residual, surface coating, foam and various other types of products but does not include gas-pressurized products such as whipping cream. The term aerosol as used here is not confined to the scientific definition.

Aerosol Test Method for Flying Insects—official bio-assay method (sponsored by CSMA) using houseflies and OTA.

Auxiliary Solvent—liquid material used in addition to the primary solvent. Generally used to replace part of the primary solvent to produce some specific effect or as a matter of economics.

Chemical Attack—chemical reaction or solvent effect, causing failure or deterioration of plastic and rubber parts, organic coatings, metals, or lithography involved in the completed package.

Compatibility—broad term meaning that the various components of an aerosol formulation can be used together without undesirable physical or chemical results.

Concentrate—a basic ingredient or mixture of ingredients to which other ingredients, active or inactive, are added.

Container—metal, glass or plastic shell in which an aerosol formulation is packaged.

Corrosion — chemical alteration of the metal parts of container or valve. May lead to package failure and/or product deterioration.

Cosolvent—solvent used to improve the mutual solubility of other ingredients.

Crimp—one operation by which the valve may be permanently seated in some aerosol containers.

Density—weight of a given volume of material at a specified temperature.

Delivery Rate—weight of mixture discharged from dispenser per unit of time at a specified temperature. Usually expressed as grams/second at 80°F.

Dispenser—metal, glass, or plastic shell with valve from which an aerosol or pressurized formulation is dispensed.

Eductor Tube — tubing connecting the lower portion of container or dispenser with valve. Sometimes miscalled "syphon tube" or "dip tube."

Foam Product—aerosol formulation containing a solution or emulsion which is dispensed in a highly expanded fluffy form by a liquefied gas propellent.

Head Space—volume in upper portion of dispenser not filled with liquid contents. Usually expressed as per cent of total volume of dispenser at a specified temperature.

High Volatile Ingredients—see Volatile Ingredients.

Inert (or Inactive) Ingredient—component of an aerosol formulation that does not contribute to the specific effect of the formulation. In some cases, may be quite arbitrarily defined. For example, with insecticides, only the propellents are considered as inert ingredients.

Low Volatile Ingredients—see Nonvolatile Ingredients.

Metering Valve—valve that delivers a definite, limited amount of aerosol formulation each time the valve mechanism is operated.

Non-volatile Ingredients — components of an aerosol formulation with a vapor pressure less than atmospheric pressure (<14.7 lbs./sq. in. absolute) at a temperature of 105°F. Sometimes called *low volatile* components.

Official Test Aerosol, or OTA—a standard insecticide dispenser and formulation prepared by CSMA for use in Official Aerosol Test Method for Flying Insects.

Particle Size—diameter of solid or liquid particles expressed in microns (thousandths of a millimeter).

Pressure—internal force per unit area exerted by any material. Since the pressure is directly dependent on the temperature, the latter must be specified. The pressure may be reported in either of two ways:

(A) Absolute pressure—the total pressure with zero as a reference point. Usually expressed as pounds per square inch absolute (psia).

(B) Gage pressure—the pressure in excess of atmospheric pressure. Under standard conditions at sea level, the numerical value of the absolute pressure is 14.7 higher than that of the gage pressure. The gage pressure is usually expressed as pounds per square inch gage (psig).

Product Deterioration — chemical reaction or physical change within or between components considered compatible in original formulation. May be due to time or temperature of storage or other factors.

Product Formulation — specific formulation of completed product, including propellent(s). Usually expressed as weight/weight (w/w) per cent.

Propellent — liquefied gas with a vapor pressure greater than atmospheric pressure (>14.7 lbs. per sq. in. absolute) at a temperature of 105°F.

Solubility—the extent to which one material will dissolve in another. Generally expressed as per cent by weight. May also be expressed as per cent by volume or parts per 100 part of solvent by weight or volume. The temperature should be specified.

Solvent—liquid part of an aerosol formulation used to dissolve solid or other liquid parts.

Spray — the dispersed discharge from an aerosol-type dispenser in the form of small droplets or particles. Does not include foam-type discharge.

Spray Coating—aerosol spray product for surface application, which leaves a residual clear or pigmented finish for protective or decorative purposes.

Stability—ability of a product to maintain its original characteristics over extended storage periods, under normal variations in temperature conditions.

Synergist — an auxiliary material that has the property of increasing the effect of the active ingredient even though it may have little specific activity itself.

NOTE: In the case of insecticides, synergists are considered as active ingredients.

Valve—mechanism for discharging products from aerosol-type dispensers.

Viscosity — internal resistance to flow of a solid (powder), liquid or gas at a specified temperature. A definite measurement for the consistency of a material.

Volatile Ingredients — components of an aerosol formulation with a vapor pressure greater than atmospheric pressure (>14.7 lbs. per sq. in. absolute) at a temperature of 105°F. Sometimes called *high volatile* components.

*Presented by the Definitions and Terms as Applied to Aerosol, Sub-committee, Scientific Committee, Aerosol Division, Chemical Specialties Manufacturers Association. Reported April 25, 1956, and Adopted by Scientific Committee May 20, 1956. Accepted by the Aerosol Administrative Committee May 20, 1956.

COMPILATION OF ACID AND SAPONIFICATION NUMBERS ACCORDING TO SUPPLIERS TESTING METHODS AND ASTM PROPOSED METHODS INCLUDING HYDROCARBON CONTENT BY ASTM D1342 FOR WAXES

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IN attempting to list all types of waxes used in the floor wax and polish fields, natural, synthetic, blends, etc., the following information was sought from all producers:

A. Name of Wax

B. Acid No. advertised — Solvent used — Method used.

C. Acid No. by ASTM Method D 1386-55T — Solvent used. Any suggestions to different solvents or procedure for specific manufacturer's waxes.

D. Saponification No. advertised—Method used.

E. Saponification No. D 1387-55T by ASTM Method. Any suggestions for improvement of the test for specific manufacturer's waxes.

F. Hydrocarbon content by ASTM 1342-54T.

Copies of the Proposed Tentative Test for Acid Number and the Proposed Tentative Method of Test for the Saponification Number which appear on the following page, were sent each producer. Commercial laboratories tested the procedures.

American Lignite produces a domestic supply of montan wax. It does not favor the ASTM method for both Acid Number and Saponification Number, because they have experienced a great deal of fluctuation. Therefore, they consider the methods to be inconsistent and unreliable.

In regard to Hydrocarbon Content, they do not use this method as they feel it does not serve any specific purpose insofar as their daily testing routine is concerned. They feel, however, in consideration of the consuming trade, there is no question that hydrocarbon content is a critically important property.

Their suggested changes of Acid and Saponification Number are as follows:

Acid No.: To 1 gram wax 10 cc of xylol or toluene and heat to steam bath till dissolved, add 90 cc freshly neutralized 90 per cent isopropanol and bring to boil. Add 1 cc phenolphthalein indicator, titrate with 0.5N isopropyl alcoholic KOH.

Saponification No.: 1 gram wax 10 cc of pure xylol, toluol, or methyl ethyl ketone and heat till wax is dissolved. Add 255 cc 0.5N isopropyl alcoholic KOH and 50 cc of 99 per cent pure, fresh neutralized alcohol and reflux for a few minutes. Add 1 cc of phenolphthalein—Titrate excess KOH with 0.05 N. HCl. A blank is run on 10 cc solvent (used above), 25 cc 0.5 N-KOH and 100 cc isopropyl alcohol.

This company felt that the proposed methods are not applicable to montan wax because of the dark color, which causes considerable fluctuation of properties. This dark color makes it hard to judge a sharp end-point titration. They found that isopropyl alcohol does an excellent job and gives consistent results.

Members of the American Wax Importers and Refiners Association cooperated by submitting a comparative report. A round robin sample of pure fatty grey carnauba wax was given each of the following for testing ASTM versus Amerwax methods: Foster D. Snell, Inc., Stillwell & Gladding, Inc., U. S. Testing Co., Inc.

A shipment of pure parnahyba fatty grey carnauba wax was selected after analysis by the U. S. Testing Co., Inc. This lot was shipped by Machado & Cia. and analyzed as follows:

Melting Point	84.8°C.
Flash Point	575°F.
Acid Value	6.6
Saponification Value	82.9
Paraffinic Hydrocarbons	0.72%
Resins	3.40%
Benzene Solubility	5.80%
Moisture	Trace
Insoluble Impurities	1.22%
Volatile Matter (moisture included)	0.49%

The shipment was resampled and the entire sample melted together and filtered through "Dicalite." After pouring into thin slabs, the entire sample was pulverized and then mixed thoroughly. One-pound samples of this pulverized wax were then submitted to the three laboratories mentioned above. Snell ran the tests in duplicate and triplicate, U. S. Testing ran them in duplicate, and both so reported. Stillwell stated that they ran the tests in duplicate but they reported only the average. The comparative results are listed below.

Observation: 1. In all instances the Amerwax results are within the accepted range for both Acid and Saponification Numbers. 2. In all instances the ASTM results are below the accepted range for Saponification Number. 3. In one instance the ASTM result is below the accepted range for Acid Number. 4. In practically all instances each operator was able to reproduce his own results. 5. The variations in the results reported by the three laboratories are being studied with the view of developing methods that will eliminate these variations.

Supplemental Remarks: A review of the remarks by the analytical chemists shows some mixed opinions about both the Amerwax and ASTM methods.

The ASTM Method was found troublesome in respect to poor solubility of the wax in the solvent.

The Amerwax Method seems to give more difficulty in determining a sharp end-point on dark waxes because of the 3 grams in comparison with the 1 gram in the ASTM Method.

Acid No.: Bareco uses 0.1N potassium hydroxide in normal propyl alcohol. A method of standardizing this is given. The titration solvent is 500 ml of C. P. benzene and 5 ml water were added to 495 ml of c. p. anhydrous isopropyl alcohol. The indicator used is alkali blue indicator made from alkali blue 6B.

Procedure: (a) To 100 ml. of the titration solvent, add 3 ml. of the alkali blue indicator solution and a drop of 0.1 N HCl to sensitize the indicator. Neutralize the solution with 0.1 N KOH to a strong wine-red color. Do not stop at the preliminary purple-red color.

Note—The indicator must be activated as described above before every titration.

(b) Into a 250 ml. beaker, introduce a weighed quantity of the sample as given in Table I and carefully melt if sample is solid. Add 100 ml. of the neutralized titration solvent containing freshly activated indicator and swirl until the sample is entirely dissolved by the solvent, the contents of the beaker being

	Amerwax		ASTM	
	Acid No.	Sap. No.	Acid No.	Sap. No.
Foster D. Snell	4.8	80.5	4.9	76.5
	4.8	81.4	4.9	....
	....	....	5.1	68.0
	4.8	80.9	5.0	72.3
Stillwell & Gladding	5.9	83.0	5.6	77.1
U. S. Testing Co.	4.8	80.2	2.4	75.4
	4.8	79.8	2.4	76.7
	4.8	80.0	2.4	76.0

PROPOSED TENTATIVE METHOD OF TEST FOR THE SAPONIFICATION NUMBER (EMPIRICAL) OF NATURAL WAXES ASTM D121 D 1387-55T

1. *Scope*
This method defines the determination of the acid number of hard vegetable waxes and other natural waxes. The number is obtained by direct titration of the material and indicates the amount of free acid present.
This method, using an ethanol, toluene mixture, is applicable to all natural waxes including carnauba.
The method is also applicable to oxidized microcrystaline waxes when a single solvent, normal propanol, is used to improve solution of these higher melting point waxes.

2. *Definition*
Acid Number, or acid value, is defined as the number of miligrams of potassium hydroxide necessary to neutralize one gram of wax sample.

3. *Apparatus*
(a) Flasks, acid value, 250 ml
(b) Burette, 50 ml, with .1 ml graduations
(c) Hot Plate
(d) Analytical balance

4. *Reagents*
(a) *Standard Alkali,* Aqueous, O.1*N* KOCH or NaOH
(b) *Wax Solvent* — Two volumes of denatured ethanol USSD3A or 95 per cent ethanol to one volume of toluene, neutralized to phenolphthalein end point.
(d) *Phenolphthalein Indicator Solution* 1.0 per cent in USSD3A ethanol or 95 per cent ethanol.

5. *Procedure*
(a) Weigh a 1 to 2 g sample of the wax to be tested into the flask.
(b) Add 100 ml of ethanol-toluene mixture, which has been previously made just pink to phenolphthalein with a .1*N* alkali solution. Heat on a hot plate or water bath to put the sample into solution. Occasional swirling may be necessary. *Note:* Difficultly soluble waxes may be first dissolved in 33 ml of hot neutralized toluene. After the sample has gone into solution add 67 ml of neutralized USSR3A or 95 per cent ethanol.
(c) Add three to five drops of phenolphthalein indicator and titrate the hot solution to the first permanent pink color. The end point is taken when the pink color remains for at least 10 sec. Swirl the flask vigorously during the titration. If precipitation of waxes occurs during titration, reheat the sample. The titration should be carried out as quickly as possible. Note the number of milliliters of a changing end point add additional O.1*N* alkali to give a definite pink color and then back titrate with O.*N* acid. *Caution:* To avoid saponification do not reheat solution during this operation.

6. *Calculations*
The acid number is calculated as follows:

$$\text{Acid} = \frac{\text{ml KOH} \times N \times 56.1}{\text{wt. of Sample}}$$

PROPOSED TENTATIVE METHOD OF TEST FOR THE ACID NUMBER (EMPIRICAL) OF NATURAL WAXES ASTM D-21 D 1386-55T

1. *Scope*
This method defines the determination of the saponification number of hard vegetable waxes and other natural waxes.

2. *Definition*
Saponification Number is defined as the number of milligrams of potassium hydroxide required to hydrolyze one gram of wax sample, and is a measure of the amount of saponifiable matter present.

3. *Apparatus*
(a) Flasks, Erlenmeyer, 250 ml chemically resistant glass
(b) Condensers for flasks
(c) Burette, 1/10 ml graduat ons, 50 ml capacity
(d) Hot Plate
(e) Analytical balance
(f) Pipette, 50 ml capacity

4. *Reagents*
(a) *Potassium Hydroxide,* alcoholic (USSD 3A or 95 per cent Ethanol), approximately O.1*N*
(d) *Hydrochloric Acid standardized* O.1*N*
(e) *Phenolphthalein Indicator Solution* 1.0 per cent in USSD 3A or 95 per cent ethanol.

5. *Procedure*
(a) Weigh to the nearest milligram a sample of approximately 1 g into a 250-ml Erlenmeyer flask. Measure 50 ml of O.1*N* alcoholic KOH into the flask containing the test sample. Add an equal amount of the KOH to a 250-ml Erlenmeyer flask containing no sample for use as a blank.
(b) Connect both flasks to condensers, and, by means of a hot plate, reflux for 3 hrs. Remove the flasks from the condensers and add three to five drops of phenolphthalein indicator.
(c) Titrate the sample and the blank with O.1*N* MCl until the pink color just disappears and does not return for at least 10 sec. If the solution congeals on cooling, or if soap separates on cooling, conduct the titration as near boiling as is feasible. Frequently swirl the contents of the flasks during titration.

6. *Calculations*

$$\text{(a) Sap. No.} = \frac{(\text{ml HCl to} \quad \text{ml HCl to}) \text{ (titrate blank—titrate sample) x N. of HCl x 56.1}}{\text{Wt. of sample of grams.}}$$

TABLE I

Size of Sample

Total Acid Number	Size of Sample g.	Sensitivity of Weighing, g.
0.0 to 3.0	20.0/2.0	0.05
3.0 to 25.0	2.0/0.2	0.01
25.0 to 250.0	0.2/0.02	0.001

kept just under the boiling point on a hotplate.

(c) Titrate immediately—just under boiling point. Add 0.1 N KOH in increments and swirl to disperse the KOH as necessary. Shake vigorously near the end point, but avoid dissolving CO_2 in the solvent. (The blue color changes to a purple-blue as the end point is approached.) Consider the end point reached when the purple-blue color changes to a pronounced brick or claret-red color; consider the end point definite if the color change persists for 15 sec. or if it reverses with 2 drops of 0.1 N HCl.

Saponification No.: Bareco uses 0.5 N potassium hydroxide in normal propyl alcohol (analytical grade); size of sample being such that the back-titration on the sample shall be 40 to 80 per cent of the blank. Place weighed sample in the beaker and add 25 ± ml of normal propyl alcohol followed by 25 ml of alcoholic KOH solution. Connect the breaker to an immersion type condenser (see Figure 3, Appendix ASTM D 939-52) and reflux for 30 minutes, after which disconnect the condenser and immediately add 25 ml of precipitation naphtha. Wash the exposed condenser and beaker surfaces with 25 ml. of wash solution — equal parts of normal propyl alcohol and distilled water. Then titrate the sample at a temperature between 50 and 60°C with 0.5 N HCl, using 3 drops of phenolphthalein indicator. The end point is reached when the indicator color is discharged. A blank determination is run. This is a modification of D 94-52T. The essential modification consists of substituting normal propyl alcohol for ethyl alcohol in the alcoholic KOH solution and for the methyl ethyl ketone solvent.

Bareco states at the end of each method the following: "Improved reproductibility among different operators can be obtained by substituting a Beckman Model K Automatic Titrator for the color indicator solution and manual titration. Solutions are titrated to 9.0 pH, which has been determined to be the average end point for the color indicator. A 125 Watt, 115 Volt, Chromalox R-54 heater (Edwin L. Wiegand Co., 7506 Thomas Blvd., Pittsburgh 8, Pa.) should be mounted permanently on the titrator base in order to control the temperature of the solution. The titration is run at a temperature between 50 to 60°C."

The 280 Wax is a synthetic wax (N, N', Ethylene Bis-Stearamide).

Acid No.: Dissolve wax in boiling toluene, cool slightly, then add alcohol and titrate with acid or alkali. The 280 Wax has both acid and base value, since, chemically speaking, it is not a true wax.

Saponification No.: Theoretically 280 has a very high saponification number, but it is stable toward either acid or base hydrolysis, so that no hydrolysis occurs by methods employed in saponification number determinations.

ASTM methods were not run on this wax.

Acid No.: Concord uses "Griffin Technical Method of Analysis" and as a solvent uses neutral ethanol. In all cases when ASTM 1386-55T with ethanol and toluene was used, the ASTM method gave higher results.

Saponification No.: Griffin's method followed, and in all cases but one the ASTM 1387-55T gave higher results.

Acid No.: Dura reports that ASTM D 1386-55T seems applicable for the emulsifiable Fisher-Tropsch waxes.

Saponification No.: "It is suggested that to improve the saponification method for Fisher-Tropsch waxes the following procedure be adopted:

"The wax should be melted beforehand in hot toluol before the 50 ml of 0.1N alcoholic KOH is introduced into the flask containing the test sample. An equal quantity of toluol should be added to the control flask for the blank determination.

"If the ASTM method were to be followed utilizing only alcoholic KOH, the wax precipitates out of the titration and occludes appreciable quantities of the alkali which is not available for titration. Accordingly very high saponification values would result." This is indicated by the results of all waxes shown except H 111.

Due to the lower melting point of H 111 as compared with the other waxes, it was felt by Dura that the two methods (Dura and ASTM methods) check reasonably. However, Dura recommends the same modification be used in the saponification number determination as for the other emulsifiable Fisher-Tropsch waxes.

Hydrocarbon Content: The hydrocarbon contents of the waxes were run by the ASTM 4 1342-54T method by a commercial laboratory. "Insofar as the Fisher-Tropsch waxes are concerned, and for that matter any synthetic wax derived from a hydrocarbon source, we do not consider the hydrocarbon content of these synthetic waxes to be an indication of quality in any manner whatsoever. Since the Fisher-Tropsch waxes are derived from a synthetic paraffin of extremely hard nature (penetration less than 1) with a high melting point (221°F.), the quality of the chemically unaltered hydrocarbon content is not to be confused nor compared with ordinary paraffin . . ."

Acid No.: Petrolite favors "the use of normal propanol as the solvent because higher melting waxes do not go into solution in the ethanol-toulene mixture. The normal propanol will work equally well with the natural or vegetable waxes, and we favor the adoption of this test procedure with the use of normal instead of the two-solvent mixture. The test would then be less confusing, and would also be applicable to oxidized microcrystalline waxes, synthetic waxes, and various blends.

Note ASTM D 1386-55T states "The method is applicable to oxidized microcrystalline waxes when a single solvent, normal propanol, is used to improve solution of these higher melting point waxes."

Saponification No.: Petrolite method differs from ASTM D 1387-55T in that they use 0.5 gram sample; the potassium hydroxide is 0.1N in normal propanol (the normal propanol had been previously purified by refluxing with KOH for at least 24 hours and distilled); the refluxing of the sample is for one hour.

"We would welcome an ASTM test method for saponification values that would satisfy the industry. Our method as described above works very well with natural waxes as well as the higher melting oxidized microcrystalline waxes, synthetic waxes, and various blends. This variation from the proposed ASTM method is similar to that recommended by ASTM on Acid Number, and again we would favor only one alcoholic solvent (normal propanol) which would be applicable to natural or vegetable waxes as well as the synthetic waxes and blends.

"We have found that discoloration takes place on storage of KOH in C. P. normal propanol; but if the normal propanol has been purified further by reaction and refluxing with technical grade KOH for at least 24 hours prior to distilling for use, then no discoloration occurs. Discoloration (yellow to brown) might interfere with the phenolphthalein end point.

"We have also found that 0.5 gram of wax is a sufficient quantity for saponification number determinations.

"Most of the esters in a wax have been saponified in one hour with the higher boiling solvent, and much time is saved by using one hour as standard instead of the ASTM proposed 3 hour reflux period."

General Comment: Neither of the methods proposed is applicable to waxes with melting points in the range of the Epolenes. A change of solvents is required.

Acid No.: Due to high melting points, it is suggested by Eastman that a 2-1 volume mixture of n-butanol and xylene or toluene be used. They also suggest that the standard alkali be in an alcoholic rather than an aqueous medium.

Saponification No.: Eastman suggests that ethanol (USSD 3 A or 95 per cent ethanol) used in the alcoholic potassium hydroxide solution be replaced by n-butanol.

These changes are suggested because it is felt that they could be made

American Lignite Products Co.

Wax, Alpco Type 16

Acid Number			Saponification Number			Hydrocarbon Content
As Advt.	American Lignite Method	ASTM D 1386-55T	As Advt.	American Lignite Method	ASTM 1387	ASTM D 1342-54T
—	51 ± 5%	Results Not Consistent	—	112 ± 5%	Results Not Consistent	Not used for Plant Control

American Wax Importers and Refiners Association

U.S. Testing Analysis of Lot	Acid Number Amerwax Method		ASTM D 1386-55T	U.S. Testing Analysis of Lot	Saponification Number Amerwax Method		ASTM 1387-55T	Hydrocarbon Content
6.6	Foster D. Snell			82.9	Foster D. Snell			Not Run
	4.8	5.0			80.9	72.3		
Amerwax Limits 2.0—6.0	Stillwell & Gladding			Amerwax Limits 78—88	Stillwell & Gladding			
	5.9	5.6			83.0	77.1		
	U. S. Testing Co.				U. S. Testing Co.			
	4.8	2.4			80.0	76.0		

Bareco Oil Company

Wax	As Advt.	Acid Number Bareco Method	ASTM D 1386-55T	As Advt.	Saponification Number Bareco Method	ASTM D 1387-55T	Hydrocarbon Content D 1342-54T
Petronauba C	22/28	25.15	27.64	50/60	52.36	52.17	24.33%
Petronauba D	20/28	23.04	26.78	50/60	58.4	58.38	22.53%
Be Square 190/195 Amber	—	.01	.01	—	.01	.01	95.34%

Carlisle Chemical Works

Wax	As Advt.	Acid Number Carlisle Method	ASTM D 1386 55T	As Advt.	Saponification Number Carlisle Method	ASTM D 1387-55T	Hydrocarbon Content D 1342-54T
280	10 Max	10	Not run	Not Given	nil	not run	0

Concord Chemical Company

Wax	As Advt.	Acid Number Concord Griffin	ASTM D 1386-55T	As Advt.	Saponification Number Concord Griffin	ASTM D 1387-55T	Hydrocarbon Content ASTM D 1342-54T
Refined #407	16.2	16.2	26.4	51.1	51.2	62.5	16.4%
Refined #159	10.1	10.1	22.8	66.9	66.9	58.7	23.1%
Refined #190	—	—	4.9	19.9	19.9	27.5	60.0%
CWB	0.83	0.83	4.4	39.6	39.6	134.3	26.0%

Dura Commodities Corporation

Wax	As Advt.	Acid Number Dura Method	ASTM D 1386-55T	As Advt.	Saponification Number Dura Method	ASTM D 1387-55T	Hydrocarbon Content ASTM D 1342-54T
Duroxon Hill	10 - 20		10.2	40 - 60	50.0	52.8	12.0%
Duroxon C-60 A	25 - 35		28.9	45 - 60	59.5	94.0	24.7%
Duroxon J 324	5 - 15		9.6	30 - 40	29.4	38.0	34.0%
Duroxon H 110	15 - 30		29.6	60 - 75	70.4	102.0	8.6%

Eastman Chemical Products, Inc.

Wax	Acid Number Eastman Method As Advt.	Acid Number ASTM D 1386-55T	Saponification Number Eastman Method As Advt.	Saponification Number ASTM D 1387-55T	Hydrocarbon Content ASTM D 1342-54T
Epolene E	9 - 10	—	—	—	24.85
Epolene N	< 0.1	—	< 0.01	—	—	0

Petrolite Corporation

Wax	Acid Number Petrolite Method As Advt.	Acid Number ASTM D 1386-55T	Saponification Number Petrolite Method As Advt.	Saponification Number ASTM D 1387-55T	Hydrocarbon Content ASTM D 1342-54T
Crown 23	23.4	23.4	22.9	61	61	—	31.3%

The River Plate Corporation

Sample Carnauba Wax	American Wax Importers & Refiners Assn. Sap. Value	Acid Value	Proposed Tentative Method ASTM-D-21 Sap. Value	Acid Value
#1 Yellow	81.2	5.5	75.0 (low)	5.4
#3 N. C. Refined	79.5	6.7	78.1	7.0

Warwick Wax Corp.

Name of Wax	Acid Number Warwick Method As Advt.	Acid Number ASTM D 1386-55T	Saponification Number Warwick Method As Advt.	Saponification Number ASTM D 1387 55T	Hydrocarbon Content ASTM D 1342 55T
Cardis One	12 - 16	14.8	14.5 ± .0	55 - 65	55.1	67.5 ± 0.2	14.8%
Cardis 314	13 - 16	15.5	18.5 ± 0.5	45 - 55	49.6	51.1 ± 2.5	24.9%
Cardis 319	18 - 20	20.9	24.0 ± 0.0	65 - 70	71.0	88.1 ± 4.0	17.0%
Cardis 320	28 - 30	29.8	34.5 ± 0.5	75 - 80	78.4	83.7 ± 2.9	16.6%

Wax & Rosin Products

Gersthofen Wax Type	Acid Number Wax & Rosin Method As Advt.	Acid Number ASTM D 1386-55T	Saponification Value Wax & Rosin Method As Advt.	Saponification Value ASTM D 1387-55T	Hydrocarbon ASTM D 1342-54T
o	10 - 15	11.2	12.7	105 - 120	105.5	—	less than 2%
OM	17 - 22	21.0	20.5	105 - 120	112.0	—	" " "
OP	10 - 15	13.3	13.7	105 - 120	114.8	—	" " "
KPS	20 - 30	26.6	26.5	135 - 150	142.1	136.6	" " "
E	15 - 20	18.2	17.8	145 - 165	149.8	149.3	" " "
F	6 - 10	8.4	8.5	95 - 105	105.0	101.2	about 3%
S	140 - 155	152.6	145.0	160 - 180	170.8	168.5	less than 2%
Special	13 - 18	14.0	13.5	90 - 105	99.4	97.0	" " "
CR	30 - 35	32.3	30.6	110 - 125	119.0	114.3	" " "

Will & Baumer Candle Co.

Wax	Acid Number W & B Method As Advt.	Acid Number ASTM D 1386-55T	Saponification Number W & B Method As Advt.	Saponification Number ASTM D 1387-55T	Hydrocarbon ASTM D 1342-54T
Carnauba No. 2	9.0	9.0	80	79.5	4.5
Beeswax Refined	19.5	19.5	96	96	16.0

without affecting the accuracy or consistency of the test. With these changes, the procedures would then be applicable to the higher melting paraffin and microcrystalline waxes as well as the Epolenes.

We did not use the tentative procedure for the determination of hydrocarbon content of waxes. The chromatographic method cannot be used for the EPOLENES. In lieu of this method, we have determined the carbon, hydrogen, and oxygen content of our EPOLENE E and EPOLENE N. The determinations are as follows:

	Epolene N	Epolene E
Carbon	83.63%	85.99%
Hydrogen	13.74%	14.36%
Oxygen	2.96%	0.16%

From these results we have assumed the hydrocarbon content of EPOLENE E to be approximately 97 per cent and that of EPOLENE N to be approximately 99 per cent.

Acid No.: Warwick method uses 3-5 gram sample and a solvent mixture of benzol: methanol: 2:5 to 8.0 with a titration reagent 0.1N carbitol KOH.

It is interesting to note that a check by Warwick by three separate operators is as follows:

	Original Specification	Operator 1	Operator 2	Operator 3	Average
Cardis 1	14.8	14.7	14.5	14.5	14.53
Cardis 314	15.5	15.6	15.4	15.6	15.53
Cardis 319	20.9	20.5	20.5	20.6	20.53
Cardis 320	29.8	29.7	30.0	29.7	29.8

Here are two sets of Saponification and Acid Numbers determined on single samples of No. 1 Yellow and No. 3 N. C. refined carnauba wax. Both sets were run in triplicate. There is agreement in Acid Number, and it appears that both methods gave satisfactory results.

The Saponification Number of No. 1 Yellow by ASTM does not fall in the range 78-88 specified by Amerco.

Because Warwick's operators got their results with ASTM, Warwick engaged the services of a consulting laboratory, which reported: "No difficulty was encountered in the determination of Acid Number (ASTM 1386-55T), except in the case of Cardis One, which was not completely soluble.

Saponification No.: Warwick method uses a 3-5 gram sample, a solvent mixture of benzol: methanol: 2:5 to 8.0 with a titration reagent carbitol 0.5N KOH and sulfuric acid 0.5N.

Warwick likewise had three separate operators check this as follows:

	Original Specification	Operator 1	Operator 2	Operator 3	Average
Cardis 1	55.1	55.0	56.3	54.7	55.3
Cardis 314	49.6	50.4	50.5	50.4	50.42
Cardis 319	71.0	67.6	68.0	67.5	67.7
Cardis 320	78.4	77.5	78.0	77.4	77.63

Here again Warwick employed a consultant, and they report: "In determining saponification values by the ASTM method it was noted that none of the waxes was soluble in the saponification mixture. They formed insoluble sticky masses which adhered to the walls of the flasks. This condition probably results in the occlusion of alkali which would lead to deceptively high values." Warwick's consultants also said of the Hydrocarbon Content: "The hydrocarbon content test results are probably questionable because it is not known whether the types of hydrocarbon present in oxidized wax are non-adsorbable by alumina under the conditions of the test."

Comments: Farbwerke Hoechst submitted the following: "The methods used in determining the acid and saponification values are similar to those of the ASTM D-21. However, they differ because we did not use 0.1 n. standard aqueous potassium hydroxide solution. but a 0.5 n. alcoholic potassium hydroxide solution. This is especially important for the test on the wax 'S,' because when using a standard aqueous potassium hydroxide solution, wax occlusions may be formed which will then not be reacted in the titration. Thus a deceptively low value can be shown.

"In determining the acid value we do not use only ethanol (ASTM D-21) but a mixture of two parts xylol and one part ethanol. This has the purpose of maintaining the waxes in the solution stage. If ethanol is used alone alkali occlusions will be formed during the back titration with hydrochloric acid which may not be neutralized, thus showing deceptively high acid values.

"Especially in connection with the waxes of the C Group the sole use of ethanol leads to difficulties and unusable values are thus obtained. Therefore, we have not incorporated them in the data sheet.

"As far as Hydrocarbon Content is concerned, we wish to point out that the small amounts present in the various types have not been added during manufacturing of the Gersthofen waxes, but were originally present in the raw material. Therefore, considering the small amounts of hydrocarbons, this is not a blend, and not an extender."

"The values arrived at by the ASTM-method relate to certain single lots, whereas our laboratory's values represent limit values which are based on extended observation in the manufacturing process over a period of years."

Observations

Poor solvency of wax in solvent seems to be the greatest criticism of ASTM methods. This seems to stem from the fact that most of those reporting were testing waxes other than natural, with higher melting point than the natural waxes. None of the reporting companies who used ASTM D 1386-55T procedure for Acid Number stated whether they used either ethanol:toluene-2:1 or n propanol in the acid number test. It might be well to call to the attention of all the statement in the scope of D 1386-55T.

"The method is also applicable to oxidized microcrystalline waxes when a single solvent, normal propanol, is used to improve solution of these higher melting point waxes."

Actually only two companies reported that D 1386-55T Acid Number using n propanol was entirely applicable.

Each company submitting reports had their own preference of solvent for Acid Number. Summarizing these are:

- Isopropanol 1
- Isopropanol. Benzine. Water 49.5:50:0.5 1
- Ethanol:Toluol—2:1 1
- Isopropanol:Toluol—5:4 1
- n Butanol: Xylol—2:1 1
- n Propanol 2
- Ethanol: Xylol—1:2 1
- Methanol: Benzol—2.5:8 1

The saponification method was verified by melting the wax beforehand before KOH was added here, also companies used different solvents:

- Xylol, Toluol or Methyl Ethyl Ketone 1
- Toluol 1
- Methanol: Benzol—2.5:8 1
- n Propanol 1
- Ethanol: Toluol—1:1 1
- Ethanol: Toluol—1:2 1

Foster Snell advised they use n-amyl alcohol:toluol:ethanol (S D 3A) in a ratio 1:1:8 by volume respectively for both acid and saponification numbers.

Size of sample used varied but it appears that most agree one (1) gram has an advantage of sharp end points.

Acid Number
- 3 gram 2
- 1 gram 3
- Size depending on Acid Number—1

Saponification Number
- 1 gram 4
- 0.5 gram 1
- Size depending on Sap. Number—1

Most companies, likewise, use different Titration reagents.

Acid Number
- 0.5 *N* Isopropanol KOH 2
- 0.1 *N* n Propanol KOH 1
- 0.1 *N* aqueous KOH 1
- 0.5 *N* Methanol 2
- 0.5 *N* Carbitol 1

Saponification Number
- 0.5 *N* Isopropanol KOH 2
- 0.57 *N* n Propanol KOH 2
- 0.1 *N* Ethanol KOH 1
- 0.1 *N* n Propanol KOH 1
- 0.5 *N* Carbitol 1

Only two companies reporting used the ASTM Acid Number recommenda-

tion of 0.1 N aqueous KOH; the balance all used alcoholic solutions.

Likewise only one company found the ASTM Saponification Number recommendation of 0.1 N alcoholic KOH satisfactory. Only one company recommended a change of indicators, and that was for Acid Number.

In the matter of time of refluxing in saponification, one method suggests 5 hours, one recommended 1½-2 hours, and the balance who reported found the ASTM D 1387-55T recommended time of 3 hours satisfactory.

No comments as to procedure of Paraffinic Hydrocarbon Content were reached. However, Candy & Co. did send a revision of one item:

"Considerable difficulty has been experienced in obtaining higher results due to the use of a technical grade of heptane which either contained or developed on standing an appreciable percentage of non-volatile solids.

"We find that it is necessary to use approximately 1500 to 1700 ml of n heptane per test. Therefore, if the heptane contained as much as 1 mg. of solids per 100 cc's it would add approximately 0.5 per cent to the paraffin content for each 1700 ml's used with a 4-gram sample.

"Therefore, we feel that it is necessary to specify a minimum of non-volatile solids in the heptane. We suggest that this figure be in the range of less than 0.5 mg per 100 ml of heptane.

"With the use of normal technical heptane available we find it necessary to redistill the heptane before each use."

Recommendations

The following recommendations were made:

a. That a single solvent n propanol be studied to determine if it cannot be used for not only the solvent in both acid and saponification numbers, but also for the preparation of the alkali solution.

Note: To prevent discoloration on storage of KOH in C. P. normal propanol, purify the n propanol by reaction and refluxing with technical grade KOH for at least 24 hours prior to distilling for use.

b. Size of sample remain at one (1) gram.

c. If a higher alcohol is used for saponification a study be run to see if one (1) hour would not suffice, thus shortening time of operation.

d. Use of automatic titrators be considered as an alternate method.

e. When the methods are rewritten it be suggested that the use of one sample be considered sufficient if the result complies with purchase sample, and that running of duplicate samples with one blank be used in refill cases.

f. All further work be done on high melting point materials to eliminate sticking, occulation, etc.

Since the preparation of this paper the American Wax Importers and Refiners Association has done another series of tests on three samples, using the Foster D. Snell Method for Acid Number and Saponification Number.

A review of this accompanying report reveals that all three methods used by ASTM, Amerwax and Foster D. Snell produce variations in results, intra- and inter-laboratory-wise. The analytical chemists found some objectionable feature in each one of the tests used. It seems that even if all these objectionable features could be eliminated the human factor in determining the end point would remain. Therefore, these methods seem to have their limitations. Probably some other basic method will have to be found that will produce more uniform results.

It is hoped this article will point the way.

Conclusions

"All companies who purchase wax should study the methods outlined and if interested obtain from the author the

(*Turn to Page 270*)

Foster D. Snell, Inc.—Methods of Analysis—Waxes
Acid Number
Adopted Jan. 1, 1952

Reagents

0.1N HCl solution standardized to 0.0001N aqueous
0.1N KOH solution standardized to 0.0001N aqueols
1 per cent phenolphthalein solution in alcohol
Solvent consisting of n-amyl alcohol, toluene and ethyl SD3A alcohol in ratio of 1:1:8 by volume respectively.

Procedure

Pipette 150 ml. of the solvent mixture into a 250 ml. Erlenmeyer. Add 3-4 drops of phenolphthalein solution. Heat gently for 2-3 minutes. Add base very slowly till color changes to pink. This is usually about 1 drop of base. This is the neutralized solvent.

Add 1-3 gms. of the wax sample. Attach to reflux and heat till completely dissolved, about 3-4 minutes. The hot solution is then titrated with base to the end point (phenolphthalein).

Calculations

$$\text{Acid value} = \frac{\text{mls. base} \times \text{N base} \times 56.1}{\text{wgt. sample in gms.}}$$

Foster D. Snell, Inc.—Methods of Analysis—Waxes
Saponification Number
Adopted Jan. 1, 1952

Reagents

Approx. 0.5 N Solution of KOH in solvent
0.5 N solution of HCl
Solvent is n-amyl alcohol; toluene; ethyl SD3A alcohol in the ratio of 1:1:8 parts (by volume) respectively.
Indicator is 1 per cent phenolphthalein.

Reagent Preparation

KOH solution—200 ml. of toluene, 200 ml. of n-amyl alcohol, and 1600 ml. of ethyl SD3A alcohol are mixed completely with 1000 ml. of the mixture in a 2000 ml. volumetric flask. Add 65-70 gms. of c.p. KOH pellets. Slight warming and agitation are necessary to effect solution. Make up to 2000 ml. with the remaining solvent. The solution has a yellowish tint. The solution is decanted from the fine powder which will settle out on overnight standing, and from any small amount of a water phase which may have formed.

Indicators—
Phenolphthalein: 1.0 gm. of solid reagent is added to 100 ml. of ethyl alcohol.

Procedure

Into two of the three flasks, weigh out 1.0-3.0 gm. samples of the wax. Into all three flasks, pipette 50 ml. of the KOH solution. Heat, allowing moderate reflux for at least 1.5 hours, and preferably for 3 hours. At the end of this time, add 100 ml. neutralized solvent, heat to boiling and titrate to determine unreached KOH, titrating the blank first and then the wax samples.

Calculations

$$\text{Saponification No.} = \frac{(\text{net ml. acid for blank} - \text{net ml. acid for sample})\ (\text{N acid})\ (56.1)}{\text{weight of wax sample (gms.)}}$$

U. S. GOVERNMENT SPECIFICATIONS

General requirements of U. S. Federal Specifications for soaps, cleaners, detergents, polishes, insecticides, etc.

Insecticides, Aerosol, Low Pressure (12-Ounce Dispenser) O-I-508

Insecticides aerosol, 12-ounce dispenser, covered by this specification are intended to be used against mosquitoes, flies and other small flying insects.

Insecticides aerosol covered by this specification shall be of the following types:

Type I.—Allethrin and DDT
Type II.—Pyrethrins and DDT

The insecticide shall comprise the following ingredient materials in the specified proportions by weight:

TYPE I.

Ingredients	*Percent*
Allethrin[1], conforming to spec., minimum	0.6
Dichlorodiphenyltrichloroethane conforming to spec., minimum	2.0
Aromatic petroleum derivative solvent, conforming to spec., minimum	5.0
Deodorized kerosene[1], conforming to spec., minimum	7.4
Dichlorodifluoromethane, conforming to spec., maximum	42.5
Trichloromonofluoromethane, conforming to spec., maximum	42.5

[1] The deodorized kerosene percentage content shall include the related products from the technical allethrin.

TYPE II.

Ingredients	*Percent*
Pyrethrum extract, conforming to spec., minimum	2.0
Dichlorodiphenyltrichloroethane, conforming to spec., minimum	2.0
Piperonyl butoxide technical, conforming to spec., minimum	1.0
Aromatic petroleum derivative solvent conforming to spec., minimum	5.0
Deodorized kerosene, conforming to spec., minimum	5.0
Dichlorodifluoromethane, conforming to spec., maximum	42.5
Trichloromonofluoromethane, conforming to spec., maximum	42.5

The pyrethrum extract shall contain 20 percent pyrethrins.

The dichlorodiphenyltrichloroethane (DDT) shall conform in all details to grade B as specified with not more than .01 percent trichloromonofluoromethane insoluble material.

Piperonyl butoxide technical shall conform to the requirements.

The aromatic petroleum derivative solvent shall be a purified petroleum product. The product shall be certified by the manufacturer as causing no irritation to human skin. The product shall conform to the following requirements.

Color .....Not more than 4.0 Union Colorimeter
Specific gravity API..9-22
Water content .....None
Flash point (open cup), minimum ....150°F.
Initial boiling point, miniumum .....300°F.
Final boiling point...650°F.
Solvent power for DDT at 74°F.....35 gm./100 ml.

The deodorized kerosene shall meet the following requirements:

Appearance .....Clear and free from suspended matter.
Color .....Not less than plus 20 (Saybold chromometer).
Distillation range..Initial boiling point not less than 350°F., end point not above 500°F.
Residue from distillation .....Neutral.
Flash point .....Not less than 125°F. (Closed cup).
Odor .....Free from kerosene odor and practically free from all odor.
Residue odor .....None.
Unsulfonated residue .....96 percent, minimum.

The dichlorodifluoromethane shall conform to the detailed requirements specified in federal specification.

The trichloromonofluoromethane shall conform to the detailed requirements specified in federal specification.

The technical allethrin shall meet the following requirements:

Each container shall contain not less than 12 ounces of the insecticide, propellant and solvent mixture.

Each container when filled with the insecticide, propellant and solvent mixture shall contain not more than 80 ppm. of water.

The finished insecticide, propellant and solvent mixture in type I shall contain not less than 0.6 percent allethrin based on the analysis of the technical allethrin.

The finished insecticide, propellant and solvent mixture shall in type II contain not less than 0.40 percent by weight of pyrethrins.

The finished insecticide, propellant and solvent mixture shall, in type I and type II, contain not less than 2.0 percent by weight of dichlorodiphenyltrichloroethane (DDT).

The insecticide shall be mixed by a suitable process to produce a

ONLY the essential requirements of these government specifications have been extracted in this summary. Copies of the complete specifications, including details of packaging, methods of analysis, etc., are available from the Superintendent of Documents, Washington, D. C. The specifications listed are the latest versions as of the date of compilation of this edition of the Blue Book. Readers are cautioned, however, that further changes are being made periodically, and that the latest amended versions of all specifications should be consulted in filling government orders. Federal Test Method Standard #536 titled "Soap and Soap-Products (Including Synthetic Detergents); Methods of Sampling and Testing," particularly should be consulted.

PIPERONYL BUTOXIDE REQUIREMENTS (O-I 508)	*Max.*	*Min.*
alpha [2-(2-butoxyethoxy) ethoxy]- 4, 5-methylenedioxy-2-propyltoluene, percent	80	..
Specific gravity at 25°C.[1]	1.05	1.07
Refractive index at 20°C.[2]	1.497	1.512

[1] Determined by any suitable method accurate to 0.001.
[2] Determined by an Abbe Refractometer or equivalent instrument at 20° C.

ALLETHRIN REQUIREMENTS (O-I 508)	*Requirement (percent by weight*
Allethrin, minimum	75.0
Chrysanthemumic acid, maximum	2.7
Chrysanthemumic acid chloride, maximum	0.3
Chrysanthemumic anhydride, maximum	5.0
Dichlorodifluoromethane insoluble, maximum	0.5

homogenous mixture. Dispenser filling shall be carried out at a relative humidity equivalent of not more than 30 percent at 70°F.

Insecticides, Liquid, Space Spray O-I-551a

The insecticides covered by this specification are designed to spray in enclosed spaces either directly on flies and mosquitoes or into air in which they are flying.

The insecticides shall be of but one grade, and the following types (in deodorized kerosene), as specified:

Type I.—Pyrethrins and DDT.
Type II.—Allethrins and DDT.
Type III.—Pyrethrins.

The insecticide shall comprise the ingredient materials in the specified proportions in the accompanying table.

When specified in the contract or purchase order, other synergists may be substituted for piperonyl butoxide.

Pyrethrum extract shall dissolve in deodorized kerosene to form a clear solution. The pyrethrin content shall be determined as specified.

Piperonyl butoxide shall be of the technical grade containing not less than 80 per cent alpha—[2-(2-butoxyethoxy) ethoxy]—4, 5-methylenedioxy-2-propyltoluene, also named (butyl carbitol) 6-propyl piperonyl) ether. It shall conform to the following requirements:

	Min.	*Max.*
Specific gravity, 25°/25°C.	1.05	1.07
Refractive index at 20°C.	1.497	1.512

The piperonyl butoxide content of the finished insecticide shall be determined as specified.

DDT shall conform to the requirements for Grade B of Federal Specification. The finished insecticide shall be tested as specified and shall contain 5 mg. ± 0.25 organic chlorine per gram of solution.

The technical grade allethrin shall contain not less than 75 per cent by weight of allethrin nor more than 8.0 per cent total free acidity calculated as chrysanthemum monocarboxylic acid. The finished insecticide shall contain not less than 0.15 per cent by weight of allethrin based on analysis of technical grade and weight records.

The odor neutralizer shall be of a grade in commercial use and shall impart a pleasing or neutral odor to the finished insecticide. Only those odor neutralizers which have been approved at time of invitation for bids will be permitted.

Deodorized kerosene shall be free from kerosene odor and practically free from all odor, shall be clear and free from suspended matter and shall conform to the requirements in the accompanying table.

Insecticide, 75 Percent DDT Water-Dispersible Powder O-I-568

This specification covers one grade of insecticide, water-dispersible powder, 75 per cent dichlorodiphenyltrichloroethane (DDT).

It shall be prepared from dichlorodiphenyltrichloroethane (DDT) together with such biologically inert modifying and conditioning agents as are needed to meet the requirements.

The finished insecticide shall contain not less than 36.0 per cent organic chlorine when tested as specified, shall be free flowing, of a light color such as white, cream, or light gray, and shall be readily wettable with water to provide dispersions suitable for use as residual effect insecticide sprays.

Any foam built up in the preparation of test suspensions shall not have such copiousness, stability, or other properties as would prevent the completion of the tests.

The surface-mean particle diameter of the insecticide powder shall be not greater than 5.0 microns.

Not less than 98 per cent of the insecticide powder shall pass through a 74-micron (U. S. Standard No. 200) sieve, and not less than 100.0 per cent shall pass through a 1,000-micron (U. S. Standard No. 18) sieve.

Not less than 95 per cent of the insecticide powder incorporated in a suspension shall pass through a 250-micron (U. S. Standard No. 60) sieve.

A suspension prepared and tested as specified shall have a pH value not lower than 5.0 and not higher than 10.0.

INGREDIENT MATERIALS (O-I-551a)

	Per Cent by Weight *Minimum*	*Maximum*
Type I:		
Pyrethrins	0.08	0.12
Piperonyl butoxide, technical	0.75	0.85
DDT	0.95	1.05
Odor neutralizer	0.04	0.06
Deodorized kerozene	To make 100 per cent	
Type II:		
Allethrin	0.15	0.18
Piperonyl butoxide, technical	0.75	0.85
DDT	0.95	1.05
Odor neutralizer	0.04	0.06
Deodorized kerozene	To make 100 per cent	
Type III:		
Pyrethrins	0.08	0.12
Piperonyl butoxide, technical	0.75	0.85
Odor neutralizer	0.04	0.06
Deodorized kerozene	To make 100 per cent	
Deodorized kerosene	To make 100 per cent	
Deodorized kerosene	To make 100 per cent	
Deodorized kerosene	To make 100 per cent	

DEODORIZED KEROSENE REQUIREMENTS (O-I-551a)

Distillation range:	
Initial boiling point, minimum, °F.	350
End point, maximum, °F.	500
Flash point, minimum, °F.	125
Color	Not more than extremely slight discoloration 25 Saybolt minimum
Residual odor	None
Unsulfonated residue, per cent, minimum	96

If pH is 8.0 or above, not more than 10.0 ml. of half normal by hydrochloric acid shall be required to neutralize the alkalinity of a 20.0-gram sample when titrated.

The product shall be clean and uniform and free from any defects which may impair its utility.

Insecticide-Concentrate: Liquid Water-Emulsifying (DDT-Nonexplosive Solvent—Emulsifying Agent) O-I-558

Liquid insecticide-concentrate covered by this specification shall be of one grade as specified.

It shall contain at least 25.0 grams of DDT conforming to the requirements for grade B of Federal Specification per 100 milliliters, a suitable emulsifier in such concentration as will enable the concentrate to meet the requirements of this specification, and a suitable solvent.

When specified in invitation for bids, each bidder shall submit a 1-gallon sample of the insecticide-concentrate which he proposes to furnish, for the purpose of determining compliance with the requirements of this specification.

The insecticide-concentrate shall be clear, homogeneous, and free from particles of undissolved DDT crystals or foreign matter. The appearance of the concentrate shall not be affected when tested as specified.

It shall contain a minimum of 120 milligrams of chlorine per milliliter, when tested as described.

When tested as described, the emulsions formed shall show not more than 5 milliliters of separation when tested at 80°F., nor more than 10 milliliters of separation when tested at 120°F., 30 minutes after formation and after reformation.

The flash point of the finished concentrate shall be not below 140°F.

There shall be no residual stain when the insecticide-concentrate is tested.

There shall be no more than a slight, mild residual odor when tested.

The solvent shall have an initial point not less than 300°F., and an end point not higher than 550°F.

The insecticide-concentrate shall cause no more than a slight discoloration of mild steel strips and shall cause no crazing or softening of strips of polymethyl methacrylate, when tested as described.

Insecticide Powder, Dusting O-I-578

Insecticide dusting powder covered by this specification shall be of but one grade as specified and shall contain only the material specified.

The finished insecticide powder shall be of free-flowing material devoid of lumps, of such fineness that not less than 99 per cent shall pass the U. S. Standard No. 80 (177-micron) sieve (dry test).

The finished insecticide powder shall have a surface mean particle diameter of not more than 5 microns.

It shall consist of 10 per cent by weight of active ingredient and the remainder of diluent. When specified, 0.1 per cent by weight of the coloring agent 1-(2, 4 dinitrophenylazo)-2 naphthol shall be added.

The active ingredient shall be technical-grade dichlorodiphenyltrichloroethane, hereinafter referred to as DDT.

Insecticide powder shall contain not less than 9.5 nor more than 10.5 per cent by weight of DDT.

The melting point of the DDT which has been extracted from the insecticide powder in the manner described, shall be not less than 100°C.

The melting point of a mixture of equal weights of the extracted DDT product and pure recrystallized DDT shall be not less than 100°C.

When specified in the contract on order, the coloring agent shall be a coal-tar dyestuff which will yield a flesh color to the finished insecticide. The dyestuff shall be 1-(2,4-dinitrophenylazo)-2-naphthol which shall be certified by the Food and Drug Administration as meeting specifications for Drug and Cosmetic Orange No. 17 of Food and Drug Administration Service and Regulatory Announcement No. 3 "Coal Tar Regulations" of September, 1940. The finished insecticide shall yield no color in the water extract.

The diluent shall be either talc or pyrophyllite.

The talc shall be of the laminar type and of such degree of fineness that not less than 90 per cent will pass a U. S. Standard No. 325 (44-micron) sieve (wet test) and not less than 99 per cent will pass a U. S. Standard No. 100 (149-micron) sieve (dry test).

The pyrophyllite shall be of the same degree of fineness as specified for talc.

No more than 1.5 per cent by weight of the DDT present in the finished insecticide powder shall be decomposed after 1 hour.

The manufacturer shall, by a blending operation just prior to the filling of cans, establish uniform batches of not less than 2,000 pounds. These batches shall be given a control or batch number and shall be numbered serially.

Insecticide, Lindane (Water-Dispersible Powder) O-I-535

The insecticide covered by this specification is a 75 per cent lindane water-dispersible powder designed to provide a water dispersion suitable for use as a residual effect spray for the control of mosquitoes, flies, sand flies, mites (chiggers), ticks, and fleas. It shall be of one type and one grade.

The insecticide shall be composed of lindane and inert ingredients, as follows:

The insecticide shall be compounded to contain a concentration of 75.0 per cent lindane by weight, and the finished insecticide shall contain not less than 534 mg. nor more than 570 mg. of organically bound chlorine per gram.

The lindane shall be the gamma isomer of 1,2,3,4,5,6-hexachlorocyclohexane of a purity not less than 99 per cent. It shall be a white crystalline substance having a melting point not less than 112°C.

The inert ingredients shall be such biologically inert diluting, modifying, and conditioning agents, as are free of organically bound chlorine.

The insecticide shall be a free flowing powder, readily wettable with water and shall be of a light color such as white, cream, or light gray.

In the preparation of test suspensions of the insecticide powder, any foam produced shall not have such copiousness, stability, or other properties as would prevent the completion of the tests specified.

The surface-mean particle diameter of the insecticide powder shall not be greater than 5.0 microns.

Not less than 98 per cent of the insecticide powder shall pass through a 74-micron (No. 200) U. S. Standard sieve, and not less than 100.0 per cent shall pass through a 1-mm. (No. 18) U. S. Standard sieve.

Not less than 95 per cent of the insecticide powder incorporated in a suspension shall pass through a 250-micron (No. 60) U. S. Standard sieve.

A suspension of the insecticide powder shall have a pH value not lower than 5.0 and not higher than 9.0. If pH is above 8.0, not more than 10.0 ml. of half normal hydrochloric acid shall be required to neutralize the alkalinity of a 20.0 gm. sample when titrated.

The product shall be clean and uniform, and free of any defects which might impair its utility.

Insecticide, Lime-Sulfur, Liquid Concentrate O-I-532a

Insecticide, lime-sulfur, liquid concentrate covered by this specification is suitable for the control of insects and fungi on trees, shrubs, and other growing plants.

The insecticide shall be of but one type and one grade.

Insecticide, lime-sulfur, liquid concentrate shall consist of an orange-red solution prepared by boiling lime, sulfur, and water together and shall have the following properties: Per cent by weight: calcium polysulfides, minimum 29; maximum 32; calcium thiosulfate, maximum 2.5; and specific gravity at 60°/65°F., minimum 1.270, maximum 1.295.

The finished product shall be clean, free from undissolved material and free from defects which may impair its utility.

Insecticides, Water Emulsifiable Oil O-I-588a

The water emulsifiable petroleum oils covered by this specification are designed to be diluted with water and used as sprays for the control of scale insects, aphids, and similar pests on trees and shrubs.

The water emulsifiable petroleum oils covered by this specification shall be of one grade and the following types:

Type I.—Dormant-plant spray.

Type II.—Summer-spray.

The water emulsifiable oils shall be liquids and shall contain the amount

COMPOSITION OF DORMANT-PLANT SPRAY, TYPE I

Ingredient	*Percent by weight*	
	Minimum	*Maximum*
Dormant-plant spray oil, conforming to 3.1.1	95.0	....
Emulsifier, conforming to 3.1.3	....	5.0

COMPOSITION OF SUMMER SPRAY, TYPE II

Ingredient	*Percent by weight*	
	Minimum	*Maximum*
Summer spray oil, conforming to 3.1.2	95.0	....
Emulsifier, conforming to 3.1.3	....	5.0

PHYSICAL REQUIREMENTS OF DORMANT-PLANT SPRAY OIL

	Requirement	
	Minimum	*Maximum*
Viscosity (Saybolt at 100°F.), seconds	90	120
Unsulfonated residue (percent by weight)	80	....
Distillation range: Distills up to 636°F., percent	10	25

PHYSICAL REQUIREMENTS OF SUMMER SPRAY OIL

	Requirement	
	Minimum	*Maximum*
Viscosity (Saybolt at 100°F.), seconds	50	80
Unsulfonated residue (percent by weight)	90	....
Distillation range:		
Distills up to 520°F., percent.....	10	....
Distills up to 665°F., percent.....	80	....

of ingredients specified in the table for type I, and in table II for type II, as calculated from weight records.

The dormant-plant spray oil shall conform to the requirements in the table.

The summer spray oil shall conform to the requirements in the table.

The emulsifying agent shall be completely soluble in the oil, shall not be phytotoxic, and shall produce an emulsion with water that will not separate visible drops of oil on standing for 10 minutes at 80° ± 5°F.

The finished product shall be clean, free from undissolved material and free from any defects which may impair its utility.

Insecticide, Sulfur, Dusting Powder
O-I-583a

Insecticide, sulfur, dusting powder covered by this specification is suitable for the control of mites, insects, and fungus diseases on ornamental shrubs and other plants.

The insecticide shall be of but one type and one grade.

Insecticide, sulfur, dusting powder shall be a finely ground free flowing powder containing not less than 92 per cent sulfur by weight. Not more than 8 per cent shall consist of conditioning agents and inert material.

The surface-mean particle diameter of the finished insecticide shall not be greater than 12 microns.

Not less than 98 per cent of the finished insecticide powder shall pass through a No. 325 U. S. Standard sieve (44 micron) by the wet test.

Insecticide, DDT (Solution, Residual Effect)
O-I-531a

The insecticide solution covered by this specification is designed as an oil-base residual insecticide to provide continuing protection against flies, mosquitoes, bedbugs, and other flying and crawling insects, and shall be of one type and one grade.

The insecticide shall comprise the following ingredient materials in the specified proportions by weight:

	Per Cent
Dichlorodiphenyltrichloroethane (DDT)	5 ± 0.1
Kerosene	80 ± 0.2
Auxiliary solvent	15 ± 0.2

DDT shall conform in all respects to grade B of Federal Specification. The finished spray shall contain 25 mg. ± 0.5 mg. of chlorine per grain of solution.

Kerosene shall contain no organic chlorine.

Auxiliary solvent shall contain no organic chlorine and shall consist principally of aromatic hydrocarbons. Auxiliary solvents shall not add an objectionable odor to the finished spray.

There shall be no residual stain when the auxiliary solvent is tested.

The finished insecticide shall show no sedimentation. Color shall not exceed Union Colorimeter color No. 2.0.

Rodenticide, Warfarin, Concentrates
O-R-507a

Rodenticide covered by this specification is suitable for the control of commensal rats and mice. It shall be of the following classes: Class I.—Rodenticide, warfarin 0.5 per cent; Class II.—Rodenticide, warfarin 4.0 per cent.

The rodenticide shall contain only the materials specified.

The finished rodenticide shall be a fine, free-flowing powder devoid of lumps. It shall be of such fineness that not less than 95 per cent shall pass through a 100-mesh U. S. Standard screen (dry test).

The composition of the finished rodenticide shall conform to the requirements shown in the table.

COMPOSITION: O-R-507a

Ingredient	*Class I Per Cent*	*Class II Per Cent*
Warfarin	0.50-0.55	4.0-4.4
Pigment	0.90-1.10	0.90-1.10
Cornstarch	Remainder	Remainder

The active ingredient of rodenticide warfarin concentrates shall be technical grade 3-(alpha-acetonylbenzyl)-4-hydroxy coumarin, hereinafter referred to as warfarin. This technical product shall be a fine, white or creamy white powder, melting at 159°-163°C., and containing not less than 98 per cent warfarin. It shall be free of objectionable odor or taste which might limit its suitability for the proposed end use.

Rodenticide warfarin class I shall contain not less than 0.5 per cent nor more than 0.55 per cent warfarin, and rodenticide warfarin class II shall contain not less than 4.0 per cent nor more than 4.4 per cent warfarin.

The pigment shall be a Nile green color, adequate for its proposed end use, and approved by the U. S. Department of the Interior, Fish and Wildlife Service.

The cornstarch shall conform to the requirements of the Pharmacopoeia of the United States. Percentage starch content shall be determined.

The finished rodenticide powder shall not lose more than 11.0 per cent of its weight when tested.

The toxicity and acceptability of the finished rodenticide powder shall be such that it yields a test score of not less than 80 when assayed as described.

The method employed in making the rodenticide powder shall be in ac-

cordance with best commercial practice. The product shall be clean, uniformly blended, and free of defects which may impair its utility.

Rodenticide; Fumigant Dust (42 Percent Calcium Cyanide Dust) O-R-501

Fumigant dust rodenticide covered by this specification shall be of one grade. A technical grade of fumigant dust rodenticide shall be essentially produced in accordance with best commercial practice.

The chemical and physical properties shall conform to the following requirements: Calcium cyanide — 42.0 per cent, min.; Particle size — 98.0 per cent shall pass a 100-mesh U. S. standard screen; Inert material — 58.0 per cent, maximum.

Soap, Laundry: Built, Low Titer, Powdered P-S-00578 (interim)

This specification covers a low titer soap built with alkaline salts suitable for use at low temperatures. It shall be of one grade.

The composition of the soap shall conform to the requirements shown in the table.

The percentage of moisture and volatile matter shall be computed, and reported on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 16 per cent.

The soap shall be of a white or light amber color. When specified, the color of the soap furnished shall conform to that of the accepted sample.

The odor shall not be objectionable in the soap as received or in a solution of the soap in water at 100°F. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap; Low-Titer (for Low-Temperature Washing) P-S-600a

Type I.—Bar form.
Type II.—Other forms:
Class A.—Granular.
Class B.—Powdered.
Class C.—Flake.

The soap shall have a uniform color. The odor shall not be objectionable in the soap as received or in a solution of the soap in water at 125° to 130°F. The material shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Low-titer soap shall conform to the requirements in the accompanying table.

The percentage of matter volatile at 105°C. shall be computed and reported by the testing laboratory on the soap as received. The percentages of all other constituents shall be calculated and reported on the basis of material containing 32.0 per cent of volatile matter for type I or 7.0 per cent of volatile matter for type II. Percentages are by weight.

Type II shall be as resistant as possible to development of rancidity and heating during storage. The product shall have no objectionable odor for a minimum of 15 days.

Polish; Automobile, Liquid P-P-546

Polish, automobile, liquid, shall be furnished in one type and one grade.

The liquid automobile polish shall be suitable for use on lacquer, baked enamel, and synthetic enamel finishes and shall have no objectionable odor.

It shall be a stable aqueous emulsion containing a suitable abrasive in suspension. The polish shall be a free flowing fluid that can readily be applied with a cotton cloth and shall spread easily.

It shall meet the following requirements: nonvolatile matter (total solids) shall be not less than 25 per cent, by weight.

Ash content (based on nonvolatile matter shall be not less than 35 per cent nor more than 50 per cent, by weight. Free caustic alkali-none; the neutralization number of the polish shall be not more than 5; all of the material shall pass through a No. 200 sieve, and not less than 95 per cent (based on ash content) shall pass through a No. 325 sieve; the volatile matter shall be essentially water.

Soap-Powder P-S-606a

Soap-powder shall be of but one type. It shall be a uniform mixture of soap and sodium carbonate, and/or other alkaline salts, in powdered form. It shall be readily soluble in tepid water, shall contain no free caustic alkali or inert fillers, and free from objectionable odor.

Anhydrous soap shall be not less than 15.0 per cent; alkaline salts, calculated as sodium carbonate (Na_2CO_3), shall be not less than 30.0 per cent; the sum of anhydrous soap and alkaline salts, calculated as sodium carbonate (Na_2CO_3), shall be not less than 55.0%.

Soap, Grit (Cake) P-S-571b

Grit cake soap covered by this specification shall be of the following types: Type I.— For fine work (such as required for cleaning glass and enamel ware). Type II. — For rough work (such as required for scouring and scrubbing purposes).

Grit soap shall be made from high quality soap and abrasives, uniformly mixed. Small amounts of other ingredi-

COMPOSITION (P-S-00578)

	Minimum	*Maximum*
Moisture and matter volatile at 105°C.....percent	...	16.0
Sum of free alkali and total matter insoluble in alcohol .....percent	...	40.0
Matter insoluble in water..... do	...	1.0
Rosin	...	none
Anhydrous soap .....percent	50.0	...
Titer of mixed fatty acids prepared from the soap....	...	26°C.
Material passing No. 140 sieve.....percent	...	20.0
Materials retained on No. 12 sieve..... do	...	1.5

QUANTITATIVE REQUIREMENTS (P-S-600a)

	Type I		*Type II*	
	Maximum Per Cent	*Minimum Per Cent*	*Maximum Per Cent*	*Minimum Per Cent*
Matter volatile at 105° ± 2°C.	32.0	....	7.0	....
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	2.0	....	9.0	....
Water soluble sodium silicate	....	....	....	4.0
Free alkali, calculated as sodium hydroxide (NaOH)	0.1	....	0.4	....
Free acid, calculated as oleic acid	0.1	....	None	....
Matter insoluble in water	0.5	....	1.5	....
Rosin	None	....	None	....
Sugar	None	....	None	....
Copper (parts per million)	....	....	10.0	....
Unsaponified saponifiable matter	1.0	....	1.0	....
Anhydrous soap	....	64.0	....	81.0
Titer of the mixed fatty acids prepared from the soap	22°C.	....	22°C.	....
Iodine number (Wijs) of the mixed fatty acids prepared from the soap	90.0	74.0	90.0	74.0
Acid number of the mixed fatty acids prepared from the soap	205.0	180.0	205.0	180.0
Residue retained on a No. 12 sieve (class B only)	....	....	1.5	....
Organic oxidation inhibitor	....	....	....	[a]0.10

[a] Unless otherwise specified.

COMPOSITION OF TYPE I GRIT SOAP (P-S-571b)

Ingredient	Per Cent by Weight Maximum	Minimum
Moisture and matter volatile at 105° ± 2°C.	....	5.0
Anhydrous soap	6.0	10.0
Alkaline salts (calculated as Na_2CO_3)	....	1.5
Free alkali (calculated as NaOH)	....	0.1
Free acid (calculated as oleic acid)	....	5.0
Sugar or other foreign matter	None	None
Matter insoluble in water	Remainder	Remainder

COMPOSITION OF TYPE II GRIT SOAP (P-S-571b)

Ingredient	Per Cent by Weight Maximum	Minimum
Moisture and mater volatile at 105° ± 2°C.	....	6.0
Anhydrous soap	8.0	12.0
Alkaline salts (calculated as Na_2CO_3)	....	4.0
Free alkali (calculated as NaOH)	....	0.1
Free acid (calculated as oleic acid)	....	0.5
Sugar or other foreign matter	None	None
Matter insoluble in water	Remainder	Remainder

REQUIREMENTS OF WHITE FLOATING SOAP (P-S-616b)

	Minimum Per Cent	Maximum Per Cent	Test method Per Cent
Moisture and matter volatile at 105°C.	....	34.0	20.1
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	....	2.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	....	.1	30.2
Chloride, calculated as sodium chloride (NaCl)	....	1.0	620.1
Matter insoluble in water	....	.4	30.3
Anhydrous soap	62.0	....	560.1
Rosin	....	None	70.1
Sugar	....	None	170.5
Acid number of the mixed fatty acids prepared from the soap	212	....	100.1

COMPOSITION (P-S-596c)

	Minimum Per Cent	Maximum Per Cent
Moisture and matter volatile at 150°C.	....	6.0
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	....	6.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	0.2
Matter insoluble in water	....	1.0
Anhydrous soap	89.0	....
Residue retained on a No. 12 sieve	....	1.5
Rosin		None
Titer of the mixed fatty acids prepared from the soap	39°C.	....

ents may be added to improve the quality of the soap.

Each cake of grit soap shall weigh not less than 9 ounces nor more than 10 ounces.

Grit soap, type I, shall be white in color. Grit soap, type II, shall be gray or tan.

The percentage of moisture and matter volatile at 105 ± 2°C. shall be computed and reported as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 4.0 per cent, in the case of type I and 5.0 per cent in the case of type II.

The material insoluble in water shall consist of not less than 85 per cent ground feldspar and shall be sufficiently fine that, when the soap and other soluble matter are extracted from the cake by digestion with water, 99 per cent of the material insoluble in water shall pass through a No. 100 sieve, and in the case of type I, 95 per cent shall pass through a No. 200 sieve.

Grit soap, type I, shall not scratch window glass or vitreous enameled surfaces.

The average loss in weight of the soap on immersion in water shall be not more than 10 per cent for type I and not more than 5 per cent for type II. Specimen cakes so tested shall show absence of crumbling, severe cracking, or other disintegration effects which indicate unsatisfactory serviceability of the product.

Soap, Toilet (Floating, White)
P-S-616b

This specification covers a white floating cake soap suitable for use in personal bathing and general cleaning with soft water.

White floating toilet soap shall be a cake of soap of white color, mild and pleasant in odor, thoroughly saponified, and so prepared as to float on water.

The material shall conform to the chemical requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported by the testing laboratory on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 34 per cent.

Cleaning Compound, Synthetic Detergent, Non-Abrasive, All Purpose
P-C-431a

This specification covers general maintenance commercial cleaning compounds containing synthetic detergents.

The compound covered by this specification shall be of one grade only, and of the following types:

Type I.—Powder or flake.

Type II.—Liquid.

Type III.—Paste.

The compound shall be a uniform homogenous product, free from any objectionable odor, and shall contain synthetic organic detergents. It shall contain no abrasives or fatty acid soaps and shall not be irritating to the skin. It shall be satisfactory for floor and wall maintenance with soft or hard water.

The pH value of a 1.0 percent (by weight) distilled water solution of the compound shall be not less than 5.5 nor more than 9.5.

The compound shall be completely soluble in distilled water.

The compound shall be free-rinsing.

Types I and III.—A solution of 5 grams of compound in a liter of synthetic hard water shall exhibit a cleaning efficiency of not less than 80 per cent.

Type II.—A solution of two per cent by volume (2 volumes of compound to 98 volumes of synthetic hard water) shall exhibit a cleaning efficiency of not less than 80 per cent.

A 0.2 per cent (by weight) solution of the compound shall not cause greater than one-half of the loss of 60 degree specular gloss of painted surfaces caused by a 0.2 per cent solution of trisodium phosphate.

P-S-596c

This specification covers a white or light amber powdered laundry soap suitable for use in high temperature laundering of soiled cotton fabrics, and for general cleaning of soiled cotton fabrics, and for general cleaning with soft water. It shall be of but one type.

The composition shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other

constituents shall be calculated and reported on an assumed moisture and volatile matter content of 6 per cent.

Powdered laundry soap shall be a soap in powdered form made from soda and fats, without rosin, and shall be of a white or light amber color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap, Built, High-Titer, Powdered
P-S-563

This specification covers a powdered, high-titer, built soap that is suitable for high-temperature laundering of all types of wearing apparel and linens except silk and woolens.

The composition of the soap shall conform to the requirements shown in the accompanying table.

The soap shall be a uniform mixture of soap and alkalies in powdered form. It shall be readily soluble in hot water and shall have a light uniform color.

The odor shall not be objectionable in the soap as received, or in a hot-water solution. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap, Toilet (Cake, Milled)
P-S-621c

This specification covers a milled cake soap suitable for use in personal bathing. It shall be of but one type.

The soap shall be thoroughly saponified and its composition shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 15 per cent.

Milled toilet soap shall be a high-grade, milled cake soap, as free as possible from water, either colored or uncolored, well compressed in firm, smooth cakes of a size and shape specified in the contract or order. It shall lather freely when used with cold water. Unless otherwise specified, the soap shall be mildly perfumed.

Soap: Chip
P-S-566b

This specification covers a chip soap suitable for washing, and cleaning and scouring purposes with soft water, when the presence of alkaline salts is not desirable. It shall be of but one type.

Chip soap shall be a soap in chip form made from soda and fats, or fatty acids, without rosin, as free as possible from water and all substances other than true soap.

The composition shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed, and reported by the testing laboratory, on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 10 per cent.

The soap shall have a light uniform color.

The odor shall not be objectionable in the soap received, or in a hot water solution. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap, Toilet (Powdered, Dispensers)
P-S-626c

The powdered toilet soap shall be of but one type. It shall be a thoroughly saponified soap in powdered form, made from soda and fats, shall be a uniform, free-flowing, noncaking powder, and shall lather freely when used with cold, soft water at room temperature.

Composition shall comply with the requirements in the accompanying table.

The percentage of matter volatile at 105° ± 2°C. will be computed on the basis of the soap as received, but all other constituents will be calculated to the basis of material containing 6 per cent of matter volatile at 105° ± 2°C.

The powdered toilet soap shall comply with the following fineness requirements: maximum retained on a No. 12 U. S. standard sieve, 1.5 per cent; minimum on a No. 45 U. S. standard sieve, 50 per cent; and minimum on a

COMPOSITION—P-S-563

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105°C.	....	16.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	0.2
Alkaline salts, calculated as sodium carbonate (Na_2CO_3)	21	....
Matter insoluble in water	....	1.0
Chloride (calculated as sodium chloride)	....	0.5
Anhydrous soap	56	....
Titer of the mixed fatty acids prepared from the soap	39°C.	....
Residue retained on a No. 12 sieve	....	1.5
Passing through a No. 140 sieve	....	18.0
Rosin	....	None
Unsaponifiable matter	....	1.0
Starch	....	None

COMPOSITION (P-S-621c)

	Minimum Per Cent	*Maximum Per Cent*
Moisture and matter volatile at 105°C.	....	15.0
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	....	1.7
Free alkali, calculated as sodium hydroxide (NaOH)	....	.1
Matter insoluble in water	....	.4
Unsaponified saponifiable matter (free fat)	....	.3
Anhydrous soap	83.0	....
Rosin, sugar, and foreign matter	None	

COMPOSITION—P-S-566b

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 150°C.	10.0	....
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	6.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	0.2	....
Matter insoluble in water	1.0	....
Anhydrous soap	....	85.0
Titer of the mixed fatty acids prepared from the soap	....	39°C.
Rosin	None	....

COMPOSITION (P-S-626c)

	Minimum Per Cent	*Maximum Per Cent*
Moisture and matter volatile at 105°C.	....	6.0
Sum of free alkali, total matter insoluble in alcohol, and sodium chloride	....	2.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	0.1
Matter insoluble in water	....	0.2
Anhydrous soda soap	91.0	....
Rosin, sugar, and foreign matter	None	

COMPOSITION (P-S-583b)

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105°C.	....	10.0
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	....	14.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	.5
Free acid, calculated as oleic acid	....	.5
Matter insoluble in water	....	1.0
Chloride, calculated as sodium chloride (NaCl)	....	1.0
Rosin	....	20.0
Anhydrous soap	75.0	....
Residue retained on a No. 12 sieve	....	2.0
Titer of the mixed fatty acids prepared from the soap	29°C.	....

COMPOSITION (P-S-591c)

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105°C.	....	36.0
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	2.0	11.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	.5
Free acid, calculated as oleic acid	....	.5
Matter insoluble in water	....	1.0
Chloride, calculated as sodium chloride (NaCl)	....	1.0
Rosin	....	25.0
Anhydrous soap	52.0	....
Titer of the mixed fatty acids prepared from the soap	29°C.	....

COMPOSITION (P-S-00602)

	Minimum	*Maximum*
Moisture and matter volatile at 105°C. ....percent	....	7.0
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride .... do	....	6.0
Sodium silicate .... do	0.25	2.0
Free alkali, calculated as sodium hydroxide (NaOH) percent	....	0.2
Free acid, calculated as oleic acid .... do	....	0.2
Matter insoluble in water .... do	....	1.5
Rosin	....	none
Sugar	....	none
Copper, parts per million	....	10.0
Anhydrous soap ....percent	88.0	....
Titer of mixed fatty acids prepared from the soap..	18°C.	33°C.
Iodine number (Wijs) of the mixed fatty acids prepared from the soap	75.0	135.0
Residue retained on a No. 12 sieve (Form 2 only) ...percent	....	1.5
Organic oxidation inhibitor .... do	0.05	....

No. 100 U. S. standard sieve, 90 per cent.

Unless otherwise specified, powdered toilet soap shall be mildly perfumed and, unless otherwise specified, it shall be uncolored.

Soap, Laundry (Granulated, Rosin-Type) P-S-583b

This specification covers rosin-type granulated laundry soap for use in heavy-duty laundering, such as heavily-soiled occupational clothing, where high wash temperatures are required. It shall be of but one type.

The composition of the soap shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 10 per cent.

Granulated laundry soap shall be a well-made, uniformly mixed soap in granulated or powdered form, made from soda, rosin, and fats, and shall be of a uniform color.

The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on objects after washing with a water solution and rinsing with hot water.

Soap; Laundry, Ordinary, Bar P-S-591c

This specification covers an ordinary laundry bar soap, containing rosin for use in heavy-duty laundering, such as heavily-soiled occupational clothing, where normal wash temperatures are involved. Ordinary laundry bar soap shall be of but one type.

The composition of the soap shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 36 per cent.

The soap shall be a well-made, uniformly mixed laundry or common soap in bar form, made from soda, rosin, and fats. The soap shall have a uniform color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on fabrics or objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap; Medium Titer (interim) (P-S-00602)

This specification covers soap intended primarily for use in cleaning wool fabrics, other fabrics, finished surfaces, leather, and other articles, where comparatively moderate-temperature washing solutions are indicated.

Soap covered by this specification shall be of one type and the following forms: Form 1.—Chip; Form 2.—Granular or powdered.

The composition of the soap shall conform to the requirements shown in the table.

The percentage of moisture and volatile matter shall be computed, and reported on the soap as received. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 7 per cent.

The soap shall be of a white or light amber color. When specified, the color of the soap furnished shall conform to that of the accepted bid sample.

The odor shall not be objectionable in the soap as received or in a solution of the soap in water at 120°F. The soap shall not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water. When specified, the odor of the soap, under the above conditions, shall conform to that of the accepted bid sample.

Detergent, Hand; Paste and Powder, Mechanic's P-D-00221b (Navy Ships) (Interim)

This specification covers paste and powder hand detergents for removing oil, grease and other occupational soils.

The detergents shall be of the following types: Type I — Hand grit-paste detergent. Type II — Hand scouring powder with mineral abrasive. Type III — Hand scouring powder with vegetable abrasive.

Type I detergent shall be a uniform mixture of thoroughly saponified soap and mineral abrasives in paste form.

Type II detergent shall be a uniform, free-flowing, non-stratifying mix-

ture of thoroughly saponified soap and mineral abrasives in powder form.

Type III detergent shall be a uniform, free-flowing, non-stratifying mixture of clean corn meal, corn cob meal, wood flour meal, or any combination thereof, thoroughly saponified soap and lanolin in powder form. The mixture shall contain no rosin, sugar, pine oil, nor mineral abrasives, such as lava, pumice, sand or quartz.

Hand detergents shall be mildly perfumed so as to produce a pleasant odor.

The hand detergents shall conform in composition to the accompanying table.

The hand detergents shall produce not less than 100 milliliters foam.

A solution of types II and III prepared as specified shall have a pH of between 9.0 and 10.0. The addition of 2 milliliters of 0.1N hydrochloric acid to this solution shall not reduce the pH to below 9.0 at 25°C.

Soap, Laundry (Chip, Rosin-Type) P-S-581b

This specification covers rosin-type chip laundry soap for use in heavy-duty laundering, such as heavily-soiled occupational clothing, where high wash temperatures are required. It shall be of but one type.

The composition shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 15 per cent.

Laundry chip soap shall be a well-made, uniformly mixed soap in chip form, made from soda, rosin, and fats, and shall be of a uniform color. It shall dissolve readily in hot water.

The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water and not leave an objectionable odor on objects after washing with a water solution of the soap and rinsing thoroughly with hot water.

Soap-Borax Powder For Dispensers P-S-628a

This specification covers soap-borax powder mixtures suitable for use in dispensers and of the following types:

Type I.—Without lanolin.

Type II.—With lanolin.

Soap-borax powder for use in dispensers shall be a uniform mixture of a thoroughly saponified soap and borax ($Na_2B_4O_7 \cdot 10H_2O$), free from grit and harsh abrasives, and shall be uniform, free-flowing, and noncaking.

The composition of soap-borax powder shall comply with the requirements specified in the accompanying table.

Compute the percentages of the constituents on the basis of the material as received, calculating the borax as the decahydrate—$Na_2B_4O_7 \cdot 10H_2O$. Borax ($Na_2B_4O_7 \cdot 10H_2O$) effloresces in warm, dry air. If this has occurred, the sum of the percentages from the computation on the "as-received" basis will exceed 100. If the results are greater than 100 per cent, calculate the percentages of anhydrous soap and of borax ($Na_2B_4O_7 \cdot 10H_2O$) by the following formula:

$$\% \text{ on } 100\% \text{ basis} = \frac{A \times 100}{S}$$

where:

A=percentage found

S=sum of the percentages on the "as-received" basis

The soap-borax powder shall produce not less than 100 milliliters foam.

The soap-borax powder shall comply with the following fineness requirements: Type I, maximum retained on No. 12 U. S. standard sieve, 0.00 per cent; minimum on No. 45 sieve, 5 per cent; minimum on No. 100 sieve, 45 per cent. Type II, maximum retained on No. 30 U. S. standard sieve, 0.10 per cent; minimum retained on No. 45 sieve, 5 per cent; minimum retained on No. 100 sieve, 20 per cent.

The soap-borax powder shall be uncolored or tinted.

Rosin, sugar, and other foreign matter shall not be present.

Unless otherwise specified, the soap-borax powder shall be mildly perfumed.

COMPOSITION (628a)

	Type I		*Type II*	
	Minimum Per Cent	*Maximum Per Cent*	*Minimum Per Cent*	*Maximum Per Cent*
Anhydrous soda soap	23.0	27.0	35.0	39.0
Borax calculated as $Na_2B_4O_7 \cdot 10H_2O$	72.0	77.0	57.0	63.0
Lanolin	....	0.0	2.5	3.5
pH value	9.0	10.2	8.5	9.5
Matter insoluble in water	....	0.2	....	0.3

COMPOSITION (P-S-581b)

	Maximum Per Cent	*Minimum Per Cent*
Moisture and matter volatile at 105°C.	....	15.0
Sum of free alkali or free acid, total matter insoluble in alcohol, and sodium chloride	....	12.0
Free alkali, calculated as sodium hydroxide (NaOH)	....	.5
Free acid, calculated as oleic acid	....	.5
Matter insoluble in water	....	1.0
Chloride, calculated as sodium chloride (NaCl)	....	1.0
Rosin	....	20.0
Anhydrous soap	72.0	....
Titer of the mixed fatty acids prepared from the soap	29°C.	....

COMPOSITION: P-O-0022lb

Characteristics	*Per cent by weight*					
	Type I		*Type II*		*Type III*	
	Min.	*Max.*	*Min.*	*Max.*	*Min.*	*Max.*
Matter volatile at 105° ± 2°C.	....	55.0	....	5.0	....	12.0
Alkaline salts (calculated as sodium carbonate)	....	3.0	2.0	5.0	....	7.7
Free alkali (calculated as sodium hydroxide)	....	0.1	....	0.1	....	0.1
Free acid (calculated as oleic acid)	....	0.5	....	0.5	....	0.5
Anhydrous soda soap	8.0	....	17.0	....	24.5	....
Lanolin	....	....	....	....	3.0	....
Matter insoluble in water	25.0	50.0	60.0	76.0	45.0	55.0
Fineness of insoluble siliceous matter; Per cent retained on:						
No. 40 sieve	....	1.0	....	1.0	....	....
No. 60 sieve	10.0	20.0	....	5.0	....	....
No. 80 sieve	30.0	45.0	....	....	....	....
No. 100 sieve	35.0	55.0	....	30.0	....	....
No. 200 sieve	60.0	....	....	60.0	....	....
Fineness of finished detergent; Per cent retained on:						
No. 20 sieve[1]	....	....	....	....	....	10.0
No. 100 sieve	....	....	....	....	90.0	....
Rosin	....	....	....	5.0	....	none
Sugar	....	none	....	none	....	none

[1] Particles shall be soft and friable, not solid or hard.

COMPOSITION (P-S-598B)

	Type I		Type II			
			Class A		Class B	
	Minimum Per Cent	Maximum Per Cent	Minimum Per Cent	Maximum Per Cent	Minimum Per Cent	Maximum Per Cent
Moisture (toluene distillation method)	....	....	....	55	....	60
Total matter insoluble in alcohol	....	0.5	....	1.0	....	1.0
Free alkali, calculated as potassium hydroxide (KOH)	....	.05	....	.1	....	.1
Free acid, calculated as oleic acid	....	.1	....	.2	....	.2
Alkaline salts, calculated as potassium carbonate (K_2CO_3)	....	.1	....	.2	....	.2
Matter insoluble in distilled water	....	.1	....	.2	....	.2
Chloride, calculated as potassium chloride (KCl)	....	.3	....	.5	....	.5
Unsaponified and unsaponifiable matter	....	.4	....	.8	....	.8
Anhydrous soap, calculated as potash soap	20	....	43	....	43	....
Total sodium compounds, calculated as Na_2O	....	.2	....	.5	....	.5
Glycerol	....	1.8	....	4.0	.3	....
Rosin	....	None	....	None	....	None
Sugar	....	None	....	None	....	None
Iodine number (Wijs) of mixed fatty acids derived from the soap	80	150	80	150	100	150
Acid number of mixed fatty acids derived from the soap	195	205	195	205	195	205

SOAP; GRIT, HAND, CAKE (P-S-576a)

	Maximum Per Cent	Minimum Per Cent
Moisture and matter volatile at 105°C.	25.0	....
Total alkalinity of matter insoluble in alcohol (alkaline salts), calculated as sodium carbonate (Na_2CO_3)	1.0	....
Free alkali, calculated as sodium hydroxide (NaOH)	.1	....
Insoluble siliceous material	35.0	25.0
Insoluble siliceous material retained on a No. 100 sieve	2.0	....
Insoluble siliceous material retained on a No. 200 sieve	10.0	....
Rosin	5.0	....
Sugar and foreign matter	None	....
Anhydrous soap	....	35.0

Soaps, Liquids and Paste (Automobile, Floor, and General Cleaning) P-S-598b

This specification covers liquid and paste type soaps suitable for use in general cleaning with soft water.

Soap covered by this specification shall be of the following types and classes:

Type I.—Liquid.
Type II.—Paste.
Class A.
Class B.

Type I shall be uniform liquid soap made solely from whole neutral vegetable oils or distilled vegetable-oil fatty acids and potash.

Type II shall be a uniform gel or paste soap made solely from whole neutral vegetable oils or distilled vegetable-oil fatty acids and potash, and shall conform to the requirements set forth in this section.

The composition shall conform to the requirements in the accompanying table.

The percentage of moisture (type II only) shall be computed and reported. The percentage of all other constituents shall be calculated and reported on an assumed moisture content of 50 per cent.

Type I, liquid soap shall be soluble in soft water and when diluted with water shall act as a cleaner. The flash point shall be above its boiling point. It shall not contain any solvents or oils that will damage floor surfaces. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II shall be a uniform translucent firm gel or paste of a yellowish-white to brownish-yellow color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II shall dissolve readily to give a 0.15- to 0.2-per cent solution, using distilled water at 15.5° to 20°C. (60° to 68°F.). The solution so prepared shall yield at least 150 milliliters of suds.

Type II in soft water shall act as a cleaner and shall not damage surfaces on which it is used.

The material of each type shall not become rancid or otherwise deteriorate when kept in a closed container.

Soap; Grit, Hand, Cake P-S-576a

Hand grit soap shall be a cake soap containing clean, finely divided insoluble siliceous matter, as free as possible from water, uncolored, mildly perfumed unless otherwise specified, and well compressed in firm, smooth cakes. It shall conform to the requirements in the accompanying table.

The percentage of moisture and volatile matter shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture and volatile matter content of 25 per cent.

Unless otherwise specified, each cake shall weigh not less than 8 ounces, nor more than 16 ounces.

Soaps, Potash-Linseed Oil (Liquid and Paste, Floor and General Cleaning) P-S-603b

This specification covers liquid- and paste-type linseed oil soaps suitable for use in washing floors and linoleum. It shall be of the following types:

Type I.—Liquid.
Type II.—Paste.

Type I, liquid soap, shall be a uniform liquid soap made solely from whole neutral raw linseed oil and potash.

Type II, paste soap, shall be a uniform translucent, firm gel or paste made solely from whole neutral raw linseed oil and potash.

The composition of the soap shall conform to the requirements shown in the accompanying table. Percentages are by weight.

The percentage of moisture shall be computed and reported. The percentages of all other constituents shall be calculated and reported on an assumed moisture content of 50 per cent (type II only).

Type I, liquid soap, shall be soluble in soft water and when diluted with water shall act as a cleaner. The flash point shall be above its boiling point. It shall not contain any solvents or oils that will damage floor surfaces. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The material shall not leave an objectionable odor on surfaces after washing with a water solution of the soap and rinsing thoroughly with plain water.

Type II shall be a uniform translucent firm gel or paste soap of a yellowish-white to greenish-brown color. The odor shall not be objectionable in the soap as received or in a hot solution of the soap in water. The soap shall not leave an objectionable odor on surfaces after washing with a water solution of

the soap and rinsing thoroughly with plain water.

Type II shall dissolve readily to give a 0.15- to 0.2-per cent solution, using distilled water at 15.5° to 20°C. (60° to 68°F.). The solution so prepared shall yield at least 150 milliliters of suds.

A solution of type II in soft water shall act as a cleaner and shall not damage floor surfaces.

The material of each type shall not become rancid or otherwise deteriorate when kept in a closed container.

Compound; Cleaning, Soap-Abrasive-Type (For Painted Surfaces) P-C-565

Compound, cleaning, shall be furnished in one type and one grade.

The cleaning compound shall have no objectionable odor and shall not be harmful to the hands.

As received, it shall be a uniform soft paste and shall meet the following requirements:

Matter volatile, at 105°C. shall not exceed 65 per cent, by weight.

It shall contain not more than 0.1 per cent, by weight, free alkali calculated as NaOH and shall contain not more than 0.5 per cent, by weight, free acid calculated as oleic acid.

Alkaline salts, calculated as NA_2CO_3, shall not exceed 5 per cent, by weight.

Insoluble siliceous matter shall be not less than 25 per cent nor more than 50 per cent, by weight. All of the insoluble siliceous matter shall pass through a No. 80 sieve; and not more than 15 per cent of the insoluble siliceous matter shall be retained on a No. 200 sieve.

Anhydrous soap shall be not less than 3.5 per cent, by weight.

Glass Cleaner, Liquid P-G-406

Liquid glass cleaner covered by this specification is intended primarily for use on windshields, windows and other glass surfaces and is not intended for use on transparent plastics. It shall be of but one grade and of the following types: Type I.—Regular; Type II.—Antifogging.

The component raw materials in the compound shall be suitable for the purpose intended and as specified hereinafter, and shall not include dyes, waxes, perfumes, ammonia, or inorganic alkalies.

It shall be stable under ordinary conditions of storage and handling and shall show no tendency to decompose, emulsify, or separate into layers at normal temperatures.

It shall be nonirritating to the skin and shall contain no toxic ingredients other than denaturants for alcohol.

The odor shall be no more objectionable than the comparison solution specified.

The flash point of the liquid shall be not less than 27°C. (80°F.).

The pH value of the liquid shall be not less than 7.0 nor more than 9.0 at 25°C.

The liquid shall not attack or produce more discoloration of aluminum alloys than that caused by the comparison solution.

The liquid shall not produce more softening, discoloration, or change in the surface appearance of enamel or lacquer finish than the comparison solution.

When the compound is properly applied to glass surfaces and polished, it shall leave the surface free from dust, grime, and ordinary soil materials, and shall produce an appearance equal to or better than that produced by the comparison solution.

The residue on evaporation of 50 milliliters shall not exceed the following requirements:

	Residue in grams
Type I	0.005
Type II	0.005

Antifogging (type II) shall produce antifogging characteristics on glass.

COMPOSITION (P-S-603b)

	Type I		*Type II*	
	Minimum Per Cent	*Maximum Per Cent*	*Minimum Per Cent*	*Maximum Per Cent*
Moisture (toluene distillation method)	....	....	....	55
Total matter insoluble in alcohol	....	0.5	....	1.0
Free alkali, calculated as potassium hydroxide (KOH)	....	.05	....	.1
Free acid, calculate as oleic acid	....	.1	....	.2
Alkaline salts, calculated as potassium carbonate (K_2CO_3)	....	.1	....	.2
Matter insoluble in distilled water	....	.1	....	.2
Chloride, calculated as potassium chloride (KCl)	....	.3	....	.5
Unsaponified and unsaponifiable matter	....	.4	....	1.0
Anhydrous soap, calculated as potash soap	20	....	43	....
Total sodium compounds, calculated as Na_2O	....	.2	....	.5
Glycerol	1.8	....	4	....
Rosin	....	None	....	None
Sugar	....	None	....	None
Iodine number (Wijs) of mixed fatty acids derived from the soap	175	....	175	....
Acid number of mixed fatty acids derived from the soap	190	205	190	205

COMPOSITION OF SCOURING COMPOUNDS (P-S-311)

	Type I Per Cent	*Type II Per Cent*	*Type III Per Cent*
Matter volatile at 105° ±2°C., maximum	10.0	10.0	6.0
Sum of sodium carbonate (Na_2CO_3) and anhydrous soda soap and/or active anhydrous, salt-free synthetic detergent:			
Maximum	7.0	....	....
Minimum	2.0	2.0	....
Anhydrous soda soap and/or active anhydrous, salt-free, synthetic detergent:			
Maximum	....	....	10.0
Minimum	....	....	3.0
Carbonated alkali, calculated as sodium carbonate (Na_2CO_3):			
Maximum	....	....	20.0
Minimum	....	....	6.0
Free alkali, calculated as sodium hydroxide (NaOH)			
Maximum	0.1	0.1	0.1
Insoluble siliceous matter:			
Maximum	95.0	95.0	90.0
Minimum	85.0	80.0	60.0

FINENESS OF INSOLUBLE SILICEOUS MATTER

	Type I Maximum Per Cent	*Type II Maximum Per Cent*	*Type III Maximum Per Cent*
Retained on —			
No. 60 U. S. standard sieve	1.0	1.0	1.0
No. 80 U. S. standard sieve	1.0	10.0	10.0
No. 100 U. S. standard sieve	1.0	....	....
No. 200 U. S. standard sieve	5.0	....	....

COMPOSITION: P-S-624b

	Type I		Type II	
	Minimum	*Maximum*	*Minimum*	*Maximum*
Moisture (toluene distillation method) ..... percent	..	..	..	40
Anhydrous soap (calculated as potash soap) ..... percent	15	..	60	..
Free alkali (calculated as potassium hydroxide, KOH) ..... percent	..	0.05	..	0.2
Free acid (calculated as oleic acid) ..... percent	..	0.1	..	0.2
Alkaline salts (calculated as potassium carbonate, K_2CO_3) ..... percent	..	0.2	..	0.3
Matter insoluble in distilled water ..... percent	..	0.1	..	0.2
Matter insoluble in alcohol ..... percent	..	0.5	..	1.0
Chloride (calculated as potassium chloride, KCl) ..... percent	..	0.3	..	0.5
Sodium compounds (calculated as sodium oxide, Na_2O) ..... percent	..	0.5	..	1.0
Sulfates ..... percent	..	Trace	..	Trace
Rosin ..... percent	..	None	..	None
Sugar ..... percent	..	None	..	None
Iodine number (Wijs) of mixed fatty acids derived from the soap	7	80	7	80
Titer of mixed fatty acids derived from the soap, °C.	15	28	15	28
Acid number of mixed fatty acids derived from the soap	215	270	215	270

Soap, Toilet, Liquid and Paste
P-S-624b

This specification covers liquid toilet soap and paste (for making liquid toilet soap) for use in dispensers.

Toilet soap shall be of one grade and of the following types: Type I.—Liquid; Type II.—Paste.

The material shall be a clear solution of potash soap in water. The soap shall be produced by the saponification of either vegetable oils or distilled vegetable-oil fatty acids with potash.

The material shall be a firm gel or paste of potash soap in water. The soap shall be produced by the saponification of either vegetable oils or distilled vegetable-oil fatty acids with potash.

The composition of the soap shall conform to the requirements shown in the table. Percentages are by weight.

Type II, paste soap.—The percentage of moisture and of anhydrous soap shall be computed and reported on the basis of the sample as received. The percentages of all other constituents shall be computed and reported on the basis of an assumed moisture content of 40 percent.

The soap shall be mildly perfumed and the odor shall not be objectionable as received, or in hot water. The soap shall not leave any objectionable odor on the skin after washing with a water solution of the soap and rinsing thoroughly with water.

A 15-percent (anhydrous soap content) solution of the material in distilled water, after having been frozen and then warmed to room temperature, shall exhibit no evidence of cloudiness or gelatinization.

The material when tested as specified shall produce a net volume of at least 100 ml.

Cleaning Compound, Alkali Type
P-C-436a

This specification covers one class of alkaline cleaning compound suitable for use in the hot soak tank cleaning of ferrous and nonferrous alloy parts.

The raw materials used in manufacture of these compounds shall be of high quality, intimately assembled and processed so as to produce a granular product which will remain uniform in composition and show no evidence of segregation or caking during handling or storage. The compound when used as a hot soak cleaner at boiling temperature and a concentration of 7.5 per cent (7.5 grams of compound in 100 ml. of solution) shall effectively remove asphalt, mineral oil, grease and road dirt from metal parts. Nonferrous metals shall not be attacked under these conditions.

The cleaning compound is not required to conform to definite chemical composition requirements. The manufacturer is given wide latitude in the selection of raw material and processes of manufacture, provided that the product meets all applicable requirements of this specification. The compound shall not contain any toxic or volatile substances, such as chlorinated hydrocarbons, phenolic compounds, benzene, or the like.

The cleaning compound, alkali-type, shall be equal or superior in effectiveness to the comparison formula in all respects when tested. The compound covered by this specification shall be tested simultaneously with the comparison alkali-type cleaning compound.

The cleaning compound covered by this specification shall be equal or superior to the standard comparison cleaning compound prepared and tested under the same conditions, in ability to remove mineral oil and asphalt soils from metal surfaces.

The compound covered by this specification, when boiled for 40 hours, shall be equal or superior to the standard comparison formula, prepared and tested under the same conditions, in ability to remove soils from metal surfaces.

The cleaning compound, alkali-type, shall not attack aluminum. When tested in accordance with specifications, there shall be no loss in weight of aluminum test panels, nor any visible staining, discoloration, etching or pitting of the test specimens.

The pH value of a distilled water solution of the compound at a concentration of 7.5 per cent (7.5 grams of compound in 100 ml. of solution) shall be not more than 12.1 when tested at 25°C.

The dust forming properties shall be such that the dust shall settle within a period of five seconds.

The surface tension of a 0.05 per cent solution (0.05 grams of compound in 100 ml. of solution) of the compounds in distilled water at 25°C. shall be not more than 36 dynes per centimeter.

The average penetration shall be not less than 30.0.

The difference of the percentages of any ingredient of the compound (such as silicates, carbonates, or total phosphates) taken from different portions of a container shall not exceed 2 per cent of the average percentage of that ingredient in the compound.

The compound shall be manufactured in accordance with the best commercial practice to produce a high quality material which is stable and not subject to change during storage in a sealed container.

Polish: Metal
P-P-556a

Metal polish shall be of the following types:

Type I.—Powder.
Type II.—Liquid.
Type III.—Paste.

Metal polish on each type shall be of but one grade.

All types of metal polish shall have—(a) Good tarnish removing properties. (b) Good luster-producing properties.

They shall give good protection of the polished surface against tarnishing influences, and shall be so constituted that, by reason of application and polishing, they shall not scratch metals; shall not leave the metal discolored or caked with abrasive material; shall not be detrimental in any manner to metals; shall not show any unnecessary caking of type I or III polish in the containers. The abrasive material in liquid (type II) polish, shall show no caking in the container, which cannot be readily put into

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"SOAP AND CHEMICAL SPECIALTIES" INDEX

Index to the articles appearing in monthly issues of "Soap and Chemical Specialties" for the years 1954, 1955 and 1956

FEDERAL SPECIFICATIONS

(*From Page 258*)

suspension by thoroughly shaking the containers.

The abrasive material shall be of such particle size that 100 per cent will pass through a No. 200 sieve.

Metal polish shall be free from acids, cyanide of potassium or other cyanides, grit, or other ingredients having detrimental effects on metals.

It shall clean quickly, leaving a bright polished surface, with a full luster for the material being polished.

The polished surface shall remain free from corrosion or discoloration for a period of at least 24 hours.

Polish, metal, furnished under this specification shall have good keeping qualities and be guaranteed for 1 year from the date of actual receipt at point of delivery specified in the contract or order.

The amount of volatile matter, at 105° to 107°C., in either type II or III polish, shall not exceed 70 per cent by weight, of the polish.

The flammability of the liquid contents of types II and III polishes shall be not less than 39°C.

DETERMINING VOLATILE NON-VOLATILE OF AEROSOLS

(*From Page 238*)

off through side arm. When boiling has subsided, *gently* apply vacuum to flask to avoid excessive bubbling and resultant loss of liquid. Apply continuous vacuum at 120°F. for approximately thirty minutes. Release vacuum and swirl flask gently. Reapply vacuum for about thirty seconds. Repeat three or four times and weigh. At this point, the known sample should be subjected to several brief vacuumings with weighings after each one. The point at which the correct percentage of non-volatile is reproduced (end point) should be used to determine the percentage of non-volatile in the unknown samples. In the event that a known cannot be prepared, a series of vacuumings and weighings should be carried out on the unknown until weight loss appears slight and reasonably constant. Once the procedure is established, weighings may be eliminated until the final end point is reached. Record final weight as flask plus non-volatile weight.

Calculations

Total sample weight equals total weight minus can tare (4).

Non-volatile weight equals flask plus non-volatile minus flask tare.

$$\text{Percent non-volatile equals} \frac{\text{non-volatile weight}}{\text{total sample weight}} \times 100.$$

Discussion

The above procedure generally appears to be satisfactory for most products within the scope of the test. Modifications may be made to make it more suitable to fit a specific purpose. For example, it may be undesirable to attach a thief to a dispenser because of destruction of the container making it necessary to sample the container through the aerosol valve. This may be accomplished by weighing the sample and introducing it into the vacuum flasks by spraying into a short length of plastic tubing which can be fitted rather closely over the nozzle. The tubing is projected as far into the flask as possible through a cotton plug, the sample is taken and the tubing is simply dropped into the flask having been included in the tare weight of the flask previously. A small bit of cotton, or some other suitable absorbing material, should be included to wipe off any excess liquid from around the base of the valve which does not go into the tube. This also must be included when taring the flask and should be dropped into the inside of the flask when used.

If at all possible, a vacuum line should be equipped with a gauge to indicate the vacuum being produced. This is particularly necessary since the propellant being pulled off through the vacuum line is quite soluble in the oil and could effectively dilute or thin the oil in the vacuum pump, resulting in a loss of vacuum produced.

The 120° temperature to which the samples are subjected was selected to avoid decomposition of insecticidal ingredients so that the non-volatile portion could subesquently be used for entomological tests. If this is unnecessary, higher temperatures may be used but with a shorter vacuum time as determined by trial and error. Care should be taken to avoid excessive distillation as it is possible to distill some relatively high boiling materials and thus come up with a low answer. Also, a low answer will be produced if any liquid material is spilled or lost during the course of the analysis. High results are caused by incomplete distillation generally indicated by significant weight losses when vacuum is applied.

TESTING LIGHTWEIGHT AEROSOL CONTAINER PRESSURE

(*From Page 237*)

change in prepressurizing pressure until needle movement reverses or does not occur. If no movement occurs, open valve (1), record gage reading, and barometric pressure. If movement reverses, increase or decrease pressure by 1 p.s.i. depending on indicator movement. Open valve (1) and record gage reading. Record barometric pressure, and correct to sea level. This is the true internal pressure of the aerosol. If a pressure is desired at another temperature, the bath may be adjusted and the pressure obtained at the second temperature in the same way. Once the measurements are obtained on a container, the pressure may be gradually relieved by closing valve (2), and opening valves (1) and (3), then disconnecting apparatus from can. Three cans of a product should be checked and the average reading taken as the final pressure.

Discussion

Proven accuracy at this time has been shown to be plus or minus 1.5 p.s.i. at 70°F. and plus or minus 3.0 p.s.i. at 130°F. It is believed that the method is considerably more accurate than this, but attempts to show it from light weight aerosol cans have been unsuccessful because of pressure variation from can to can.

Further tests are currently underway to reduce this pressure variation from can to can, and thereby determine the true accuracy of the method.

PEET-GRADY METHOD

(*From Page 226*)

only flies which are capable of flying may be liberated into the Peet-Grady chamber. In the large group procedure all flies in one cage are used in a single test, but in the small group method a sample of 100 ± 5 flies is used in each test. Samples may be taken by liberating the flies directly into the chamber and continuing until about 10 per cent of flies remain in the stock cage. These are discarded. The order of spray treatments must be randomized as discussed in Section IV, paragraph 6.

Immediately after liberating the flies in the chamber, a total of 12 ml. of insecticide shall be sprayed in equal quantities through each spray hole. The nozzle of the atomizer shall be oscillated slowly in a horizontal plane to avoid spraying walls and ceilings and to effect uniform distribution of the spray. This procedure shall be completed within one minute from the time the spraying was started and the chamber must remain closed at a constant temperature in the range of 82 ± 2°F. for a total of 10 min. At the end of this period the ports are opened and the chamber is ventilated by means of the exhaust fan while the flies are collected.

The paralyzed flies are picked up and transferred immediately to clean cages meeting the specifications of Section II, paragraph D. These flies may be counted when they are picked up or later, depending upon which time is most convenient. During the subsequent 24-hr. recovery period, the cage is placed in the rearing room and supplied with an adequate quantity of a 5 per cent sugar solution, arranged so that the top of the dish is not more than ¾ inch above the floor of the cage and flies cannot drown in it. A gauze-wrapped ball of cotton saturated with 5 per cent sugar solution also is satisfactory.

The unparalyzed flies in the chamber at the end of the 10-min. exposure period must be counted and discarded.

After a test is completed, all toxic residues must be removed from the

chamber. The paper on the floor must be renewed and the inside walls and ceiling must be cleaned thoroughly. Wiping with a clean cloth saturated with alcohol containing 10 per cent acetone or washing with soap and water will remove a number of toxic residues. However, special cleaning precautions may be required after tests with certain chemical compounds in order to remove their toxic residues. Contamination by many compounds may be detected by holding flies with food overnight in the cleaned chamber. The chamber is considered contaminated if more than 8 per cent of flies are either paralyzed in 30 minutes or are dead in the morning.

C. Assembling the Data: The number of unparalyzed flies must be counted and recorded at the end of the 10-min. exposure period. The dead flies are counted 24 hours (± 1 hr.) later preferably by removing them from the recovery cage. Only flies that show no sign of life upon being touched may be counted as dead. If paralyzed flies were counted as they were collected, the sum of paralyzed and unparalyzed flies yields the total flies in the test. If paralyzed flies were not counted as collected, the recovered flies are killed by placing the cage in an oven at 170°F. for a few minutes, after which they are counted. The sum of recovered and dead flies yields the paralyzed flies and this sum added to the unparalyzed flies yields the total flies used in the test. The mortality is the per cent dead of total flies and the knockdown is the per cent paralyzed of total flies.

IV. CONDITIONS FOR OFFICIAL EVALUATION

1. The tests shall be conducted in accordance with the procedure previously described and no official Peet-Grady rating may be assigned unless the tests meet all requirements.

2. At least 2 cultures of flies shall be used in making an official evaluation.

3. Cages showing a combined mortality and crippling greater than 8 per cent on the day of test shall not be used.

4. An unknown insecticide to be officially rated shall have a knockdown percentage equal to that of the OTI with a tolerance of minus 2.

5. The kill by the OTI shall fall between 30 and 55 per cent in all tests. The toxicty of an unknown spray shall be reported by a grade letter, obtained by subtracting the average kill by the OTI from the average kill by the unknown spray and comparing this result with the following figures:

Grade Letter		*Kill Difference*
AA	:	+16 or greater
A	:	+6 to +15
B	:	+5 to —5

6. In the small group procedure no more than 2 unknown samples may be tested in conjunction with one OTI in any one series. Ten tests are run on the OTI and on each of the unknowns in parallel; that is, test each spray the same number of times on flies of the same culture and test all sprays the same number of times on any one day. The samples of a series must be randomized in the order of testing. For example, number the samples and the OTI, and test them in the order 1, 2, 3; 2, 1, 3; 3, 2, 1, etc., until each has been tested ten times. After the mortality data are obtained, calculate the average kills and determine the difference between that of the unknowns and that of the OTI. In order for these differences to be valid, the standard error of the mean difference between the average OTI kill and the average unknown kill must be less than 3. If it is 3 or greater, the test results were too variable and to make the results valid, additional paired tests must be run to reduce the figure to a value less than 3. The example in Table I illustrates the arangement of test data and calculations described in the preceding paragraphs. When two unknown samples and the OTI are tested in series, the first table should consist of differences between Sample No. 1 and the OTI, the second table should show differences between Sample 2 and the OTI. 1.14 is less than 3, thus indicating the test has been properly conducted. The letter n (in formula above) denotes the number of paired tests. This number is always 10 except when it is necessary to run additional tests to reduce the standard error of the mean difference to 3 or less.

The percentage kill of Sample 1 minus the percentage kill of OTI is +4; therefore, Sample 1 is a "B" grade insecticide.

7. In the Large Group procedure the evaluation is carried out as follows:

The evaluation is based on the difference in mortality of the OTI and the unknown as determined by a minimum of 4 tests. The order of testing shall be random and replicated OTI tests on any culture shall agree within 10 points. Table II illustrates one arrangement of testing, the computation of the test results, and the grading of the sprays.

TESTING WAXES

(*From Page* 246)

complete method of each recommendation and review each so that variations be eliminated." In developing the Proposed Tentative Method for Acid and Saponification Numbers (Empirical) of Natural Waxes the following criteria were used:

1. It should be applicable to all natural waxes.

2. If possible it should be similar to methods now in use in commercial laboratories.

3. It should be as simple as possible commensurate with accuracy. It is believed that these methods can be resolved to satisfy these conditions, and that actual operation has shown the following:

a. There is less difficulty with wax color obscuring the end point if only one gram is used for a sample than if larger samples are used.

b. The use of 0.5 *N* KOH is far stronger than is required, and impairs the accuracy since there will be relatively little difference in titration between the blank in Saponification Number and the sample compared with the difference obtained using 0.1 *N* KOH. There is less difficulty with wax color obscuring. This is likewise true when 0.5 *N* HCl to 0.0001N aqueous is used.

c. The use of higher alcohols for the preparation of the alkali has some merit, and it is suggested that amyl alcohol, diethylene glycol, n butanol, n propanol or carbitol be studied.

d. That when higher alcohols are used the wax esters are saponified in one hour.

e. That the use of an automatic titrator titrating to pH of 9 brings sharp end points.

AEROSOL TEST METHOD FOR FLYING INSECTS

(*From Page* 232)

dead flies are counted 24 ± 1 hours later, preferably by removing them from the recovery cage. Only flies that show no sign of life upon being touched may be counted as dead. If the "down" flies were counted as they were collected, the sum of the "down" and the "up" flies yield the total flies in the test. If the "down" flies were not counted as collected, the recovered flies are killed by placing the cage in an oven at 170°F. for a few minutes, after which they are counted. The sum of recovered and dead flies yields the "down" flies and this sum added to the "up" flies yields the total flies used in the test. The *Aerosol Test Knockdown Mortality* is the per cent dead of total flies. In the *Aerosol Test Knockdown Mortality* calculation, the "up" flies at the end of the 15-minute exposure period are considered to be alive at the end of the 24-hour observation period. The *Aerosol Test Knockdowns* are the per cent "down" of total flies at 5, 10 and 15 minutes.

In the preceding paragraph, it is assumed that the "up" flies at 15 minutes are counted and discarded, and not captured and held for a 24-hour mortality observation. If these flies are captured, the *Aerosol Test Mortality* calculation can be made, and this includes the 24-hour dead of the "up" flies. In such a procedure, the captured flies must be held in a separate recovery cage under conditions specified for the "down" flies, and the 24-hour mortality count must be taken in a similar manner. It is also necessary that the OTA, run in conjunction with the so-treated experimental samples, receive identical treatment. In reporting results, the above terminology must be rigidly adhered to

in order to clearly designate whether the "up" flies were captured and held for observation or whether they were assumed to be alive at 24 hours.

The mortality and knockdown definitions are summarized in equation form as follows:

$$(1)\ \textit{Aerosol Test Knockdown Mortality} = \frac{\text{Dead "Down" Flies} \times 100}{\text{Total Flies}}$$

$$(2)\ \textit{Aerosol Test Mortality} = \frac{(\text{Dead "Down" Flies}) + (\text{Dead "Up" Flies}) \times 100}{\text{Total Flies}}$$

$$(3)\ \textit{Aerosol Test Knockdown, 5, 10 or 15 minutes} = \frac{\text{"Down" Flies} \times 100}{\text{Total Flies}}$$

IV. CONDITIONS FOR OFFICIAL EVALUATION

1. The tests shall be conducted in accordance with the procedure previously described.

2. At least two cultures of flies, meeting Peet-Grady specifications, shall be used in making an official evaluation.

3. Cages showing a combined mortality and crippling greater than eight per cent on the day of test shall not be used.

4. In the small group procedure, using approximately 100 flies per test, no more than three unknown samples may be tested in conjunction with one OTA in any one series. Ten tests are run on the OTA and on each of the unknowns in parallel; that is, test each spray the same number of times on any one day. The samples of a series must be randomized in the order of testing.

5. The large group procedure using approximately 500 flies per test shall be conducted in the same manner as outlined for the small group procedure with the exception that five, rather than ten, tests are required.

6. The *Aerosol Test Knockdown Mortality* and/or *Aerosol Test Mortality*, and *Aerosol Test Knockdown* (5, 10, and 15 minutes) of the unknown sample shall be reported as "meeting the standard" if its average mortality and knockdown is equal to or greater than that of the OTA run in conjunction with it. "Equal to" shall be interpreted as meaning that the results with the unknown do not differ by more than —5 percentage points from the results obtained with the OTA at 5, 10, and 15, minutes. If an unknown sample shows a mortality or knockdown less than the OTA but within the allowable 5 percentage point margin, the average dosage of the unknown must not exceed that of the OTA.

7. In no case shall numerical values be reported or any letter grade designations be assigned to the test samples as a measurement of the mortality or knockdown.

8. The *Official Test Aerosol* (OTA) is restricted to use in the above described procedure and shall be used only as a reference insecticide in house fly aerosol testing.

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COCKROACH AEROSOL TEST METHOD

(*From Page 228*)

that if the test insects are to be held under observation longer than 48 hours, they be furnished food and water at the end of the initial 48-hour observation period. Insects that withstand insecticide treatments shall be destroyed and in no case returned to the stock cultures or employed in further tests.

The basis of comparison shall be the average percentage dead and moribund of the test sample as compared with that of the OTA. In reporting the test results the test sample shall be reported as "meeting the standard" if its average percentage dead and moribund determination at 48 hours is equal to, greater than, or within 10 percentage points less than that of the OTA employed in conjunction with it. In no case shall actual numerical values be reported officially or any letter grade designation be assigned to the test samples as a measurement of their effectiveness against cockroaches. The accompanying table records the results of a typical series of tests.

IV. CONDITIONS FOR OFFICIAL EVALUATION

A. The test shall be conducted in accordance with the procedure previously described.

B. Twenty test groups of insects, numbering 20 cockroaches each (10 test sample, 10 OTA), shall be employed in making an official evaluation.

C. The average dosage shall be approximately constant throughout a given series of tests and of such magnitude as to give an average of from 50 to 75 per cent of the OTA treated cockroaches dead or moribund 48 hours after spray application.

D. The toxicity of the test sample shall be reported as meeting the standard if its average percentage dead and moribund determination at 48 hours is equal to, greater than, or within 10 percentage points less than that of the OTA run in conjunction with it. In no case shall numerical values be reported or any letter grade designations be assigned to the test samples as a measurement of their toxicity to cockroaches.

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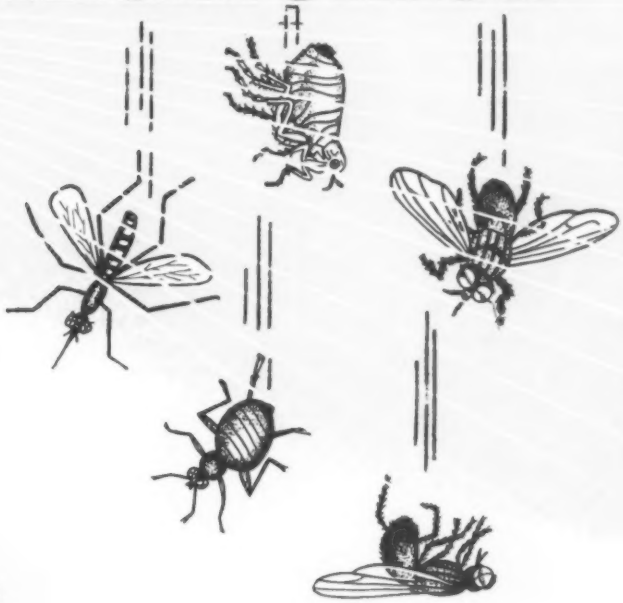

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